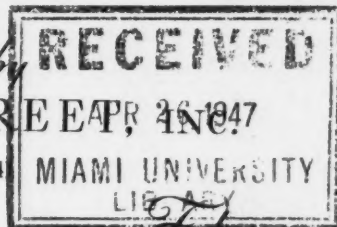


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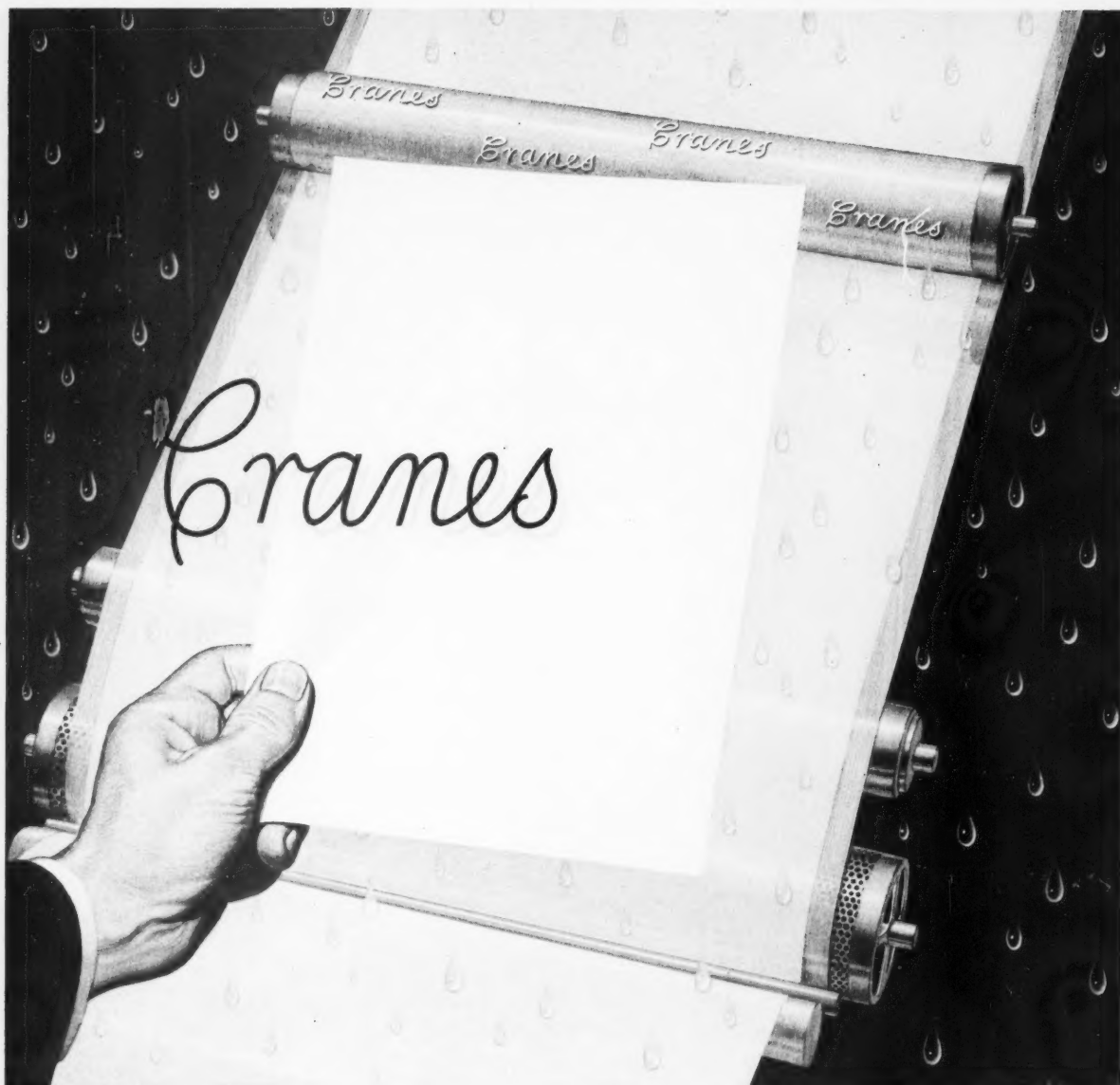
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February 1947

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*The Forces Patterning Tomorrow's Economic Life Picturing
Production Costs - A "Formula" Approach Business Trends*



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IN 4 DAYS, 40 INJURED, 24 MISSING

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TOLL OF MANY MORE
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Sept. 7, 1933, Houston, 54
Dec. 11, 1934, Kerns Hotel, Lansing, Mich., 32.
Feb. 12, 1936, Victoria Mansions, Lakewood, N. J., 16.
May 16, 1938, Terminal Hotel, Atlanta, 35.
March 27, 1944, Amsterdam Hotel, San Francisco, 22.
Jan. 16, 1945, General Clark Hotel, Chicago, 14.
June 5, 1946, La Salle Hotel, Chicago, 61.
June 9, 1946, Canfield Hotel, Dubuque, Ia., 19.
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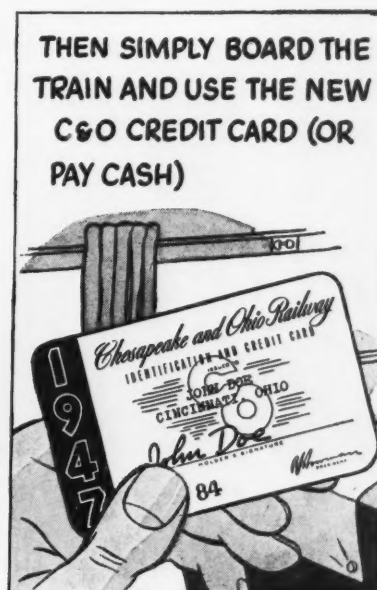
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DUN'S REVIEW

7

FEBRUARY • 1947

FRONT COVER *America's largest city and its commercial and financial center, the world's greatest port, and the hub of vast manufacturing interests, New York began with a tiny Dutch settlement on Governor's Island in 1623.*

Nearly half of the entire import and export trade of the United States flows in and out of New York Harbor. Behind the miles of docks lining the Hudson and East Rivers in the Borough of Manhattan is the city's famous skyline of towering office buildings. Spotted throughout Manhattan are the big wholesale districts which swelled the city's wholesale sales to nearly \$13,000,000,000 in 1939. Numerous department stores and thousands of smaller shops serve its retail trade.

The Dutch established the permanent settlement of New Amsterdam on the lower end of Manhattan in 1625 and the next year Director Peter Minuit bought the island from the Indians for \$24. Captured by the English in 1664, the community was rechristened New York.

The cover illustration, depicting New York in 1839, is from the Phelps Stokes Collection, New York Public Library.



DOWNTOWN NEW YORK CITY AND GOVERNOR'S ISLAND—MCLAUGHLIN AIR SERVICE PHOTOGRAPH

CARTELS *Operation of the steel cartel as summarized in the January number of DUN'S REVIEW is from a chapter in the Twentieth Century Fund's "Cartels in Action," a series of case studies of cartels by George W. Stocking and Myron W. Watkins. This book will be followed later by a companion volume, "Cartels and Competition," dealing with the general nature, implications, and results of cartel operations.*

These publications stem from a study by the Twentieth Century Fund to see why the cartel movement gained such momentum in the period between the two wars. Case histories of cartels were developed in eight industrial fields: sugar, rubber, nitrogen, iron and steel, aluminum, magnesium, electric lamps, and chemicals.

NEW BUSINESS *The growth of new business in the post-war period is illustrated in a chart covering the past 16 years, based on the listings in the DUN & BRADSTREET "Reference Book" for July of each year, with the exception of 1946 in which year-end figures are used in order to make statistics as current as possible. During 1946 changes in the "Reference Book" averaged 5,450 for each business day. The previous high for average daily changes since 1930 occurred in 1935 at the rate of 4,750 a day. Copies of the chart are available on request.*

ANNUAL INDEX *If you wish a convenient index to important developments presented in DUN'S REVIEW during the past year send us the coupon at the bottom of this page. The listings are according to subjects covered, titles, authors, and companies mentioned.*

PLEASE SEND ME A 1946 INDEX

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DUN'S REVIEW, February 1947. Published monthly by DUN & BRADSTREET, INC., 290 Broadway, New York 8, N. Y. Subscription information on page 82. Frontispiece from Devancy.

New Pages from the DUREZ Diary



Turnabout is fair play. Metals have always been a vital factor in the production of plastics. Now here's an instance where the opposite is true. A Durez phenolic plastic employed as an integral part of the Budd Induction Heater which, in turn, is used for heat-treating internal diameters of metals, helps speed metal production.

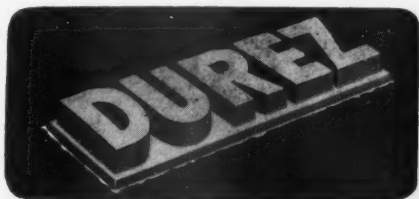
In designing this modern bit of electrical ingenuity, Budd Induction Heating, Inc., stopped at nothing that would contribute to its efficient performance. Working with Michigan Molded Plastics, Inc., they accomplished with a Durez spe-

cial compound the feat of reducing a five-piece terminal assembly to a three-part one that combines the right "pattern" of properties and costs far less to produce.

Here was a situation calling for a really versatile material. Induction heating machines employ high-power, high-frequency currents. Accurate control is vital. The plastic material for such parts as this terminal assembly needs excellent electrical properties in conjunction with high impact strength. This Durez compound . . . one of more than 300 phenolic molding materials developed by Durez laboratory en-

gineers . . . furnished the right combination of properties in addition to impressive savings in time and costly machinery.

This is a typical example of the way the Durez family of molding compounds is simplifying many of today's manufacturing problems. Heat resistance, dielectric strength, non-resonance, and impact strength, all inherent in Durez plastics, may be the answer for you. Durez laboratory engineers are ready to work on any of your problems that the phenolics may solve. Durez Plastics & Chemicals, Inc., 12 Walck Rd., North Tonawanda, N. Y.



PHENOLIC
RESINS

MOLDING COMPOUNDS

INDUSTRIAL RESINS

PROTECTIVE COATING RESINS

PHENOLIC PLASTICS THAT FIT THE JOB





NEW YORK SKYLINE—CAREW-CALDWELL PHOTOGRAPH FROM MONKMEYER

THIS IS ONE OF A SERIES OF ARTICLES OF IMPORTANCE TO THE BUSINESS WORLD PRESENTING THE PERSONAL VIEWPOINTS OF MEN WHOSE VARIED BACKGROUNDS AND POINTS OF VIEW HAVE CREATED DECIDED, AND OFTEN CONFLICTING, CONVICTIONS.

The Forces

PATTERNING TOMORROW'S ECONOMIC LIFE

BRADFORD B. SMITH

Economist, United States Steel Corporation

AMONG students of economic affairs for whose wisdom and insight I have respect I find a considerable amount of agreement on certain things. They agree, for example, on the presence of a backlog of demand for durable goods—a backlog resulting from war-time curtailment of peacetime production and from the presence of an over-abundance of money, due, in turn, to long continued inflationary

monetary policies. They agree on the presence of increased productive capacity. They agree, also, that strikes and continuation into peace-time of war-time controls, particularly price control, have definitely interfered with production of the most wanted goods.

But they observe, also, that prices and wages have been playing leap-frog up the ladder of inflation and that we have thus been in some phase of an inflation-

ary boom. Finally, they agree that inflationary boom must sooner or later be followed by some sort of depression, depending upon the promptness with which corrective action is taken. This is established by sound economic reasoning and verified by historical record. Inflationary boom can be likened to the pleasant excitement of sailing through the air when you jump off the roof. Depression is the thud when you

hit the ground. But it is the jump, not the ground, that causes the concussion. The ground is harmless if you will only keep your feet on it.

So much for the current situation. Beyond that point prospects are dimmer, but the problems are bigger. What puzzles the thoughtful and worries the conscientious is what is going to happen when the bloom is off the boom and fear of depression becomes rampant. At the root of the problem is the question of whether the American system of voluntary markets and individual freedom is going to be replaced by one or another form of statism such as has been sweeping across the world. If we should arrive at the onset of serious depression, it will be after having been habituated for more than a decade to a step-by-step, but ever increasing, assumption by government of paternalistic authority.

In the light of our habituation to this long evolution of coercive intervention into how much of what is to be produced and how much who is to get—or not get—for producing it, is it not probable, should depression come, for the evolution to be speeded rather than retarded—that is, for pressure to be exerted upon the government then in power to start large-scale public works, try to support prices and wages, step up spending, increase incentive-destroying taxation, multiply bureaucracy anew, and compound its regulatory restrictions?

Perhaps the kind of country which would result from such measures is the kind that some people think they would prefer to one in which production is free of direct or delegated government coercion. That is a judgment which each man must make for himself as a matter of philosophical conviction or moral faith. But it is an economist's job to point out, as best he can, the economic consequences of adhering to each attitude so that judgment between them may be as broadly based and intelligent as possible.

The fundamentally conflicting attitudes at the very root of the matter are as follows: You either believe in a framework of law in which your neighbor is entitled to the possession of his property and the fruits of his productive exertions, to consume or to dispose of

as he sees fit in voluntary exchange for the fruits of others' efforts; or else you believe that you have a right through the government to take from your neighbor what he produces without his consent because you or somebody else needs it or wants it, or because he produces more than you do. In one case the warrant for having something is working to produce it or its equivalent. In the other, the warrant for having something is wanting it, plus the power to take it.

Voluntary Society

The first concept is expressed in the Commandment, "Thou shalt not steal." It is the one upon which the American system of voluntary markets and free individuals was founded. The other concept lies at the roots of the collectivistic societies and their recent war-making. Let us take the first concept and explore the body of its meaning, its corollaries, and economic consequences.

If exchanges of goods and services are voluntary, then he who would sell is free to choose among all buyers, and he who would buy is free to choose among all sellers. No seller can com-

mand the buyers; no buyer can command the sellers. Voluntary markets are necessarily competitive markets. They are also the only known way of achieving fair prices. It is unfair to compel a seller to take less than competing buyers are voluntarily willing to pay. Similarly, it is unfair to compel a buyer to pay more than competing sellers are voluntarily willing to accept.

Since none in a voluntary society can secure what others produce without their consent, then fear of not having compels each man to produce for himself. *The voluntary society provides the maximum possible stimulus to each individual's productive capacity without undermining a similar stimulus to other individuals.* Break that principle—as collectivistic societies do—so that some can take without paying for it what others produce, and individuals tend to be diverted from the pursuit of individual productivity to the competitive practice of getting something for nothing with the aid of the State—that is, from exploitation of natural resources and processes to despoliation of each other.

Note next that *in the voluntary so-*

Undue taxation may invite chronic unemployment as in the 1930's by failing to induce the creation of new jobs as increased efficiency releases workers from existing jobs and the working force increases normally, declares Mr. Smith. This is because the incentive to save and invest in the job-creating tools of production is diminished.

COMPUTING INCOME TAXES, CUSTOM HOUSE, NEW YORK CITY—ACME PHOTOGRAPH





PRINTING MONEY, BUREAU OF ENGRAVING AND PRINTING, WASHINGTON, D. C.—ACME PHOTOGRAPH

"Political manipulation of the money supply is the most deceptive and devastating of all the means of transforming the highly productive voluntary society into the sterile authoritarian state—while at the same time it is the most popular and seemingly plausible means for preserving private enterprise. . . ."

ciety human exertion is constantly guided into the most efficient production of the most wanted goods. That means maximum human happiness in a material sense in terms of the very wanting to have and not wanting to work with which we are born. As the nation's wants shift from horse and buggy to Detroit-made automobiles, for example, the production of automobiles is automatically encouraged while buggy sales disappear. It becomes more profitable to produce automobiles than buggies; horsepower than horses.

Under voluntary markets production is thus continuously guided into the hands of the most efficient, and people are continuously guided into pursuits in which they find the greatest rewards, while total effort is continuously apportioned to producing the most wanted goods in terms of their cost. It is a beautiful and awe-inspiring piece of three-way, automatic, miracle-producing machinery.

Price and production regulations prevent that machinery from performing its vital functions. Of this there has recently been spectacular illustration. When buyers are prevented from pay-

ing what they are willing to pay then the incentive to produce what is most wanted is denied expression. Production is kept out of balance with true demand. At the present time, moreover, the price fixers have nothing substantial to go on except the war-time or the pre-war prices. But the war-time pattern of production, and the prices to evoke it, represent an unwanted, rather than the now-wanted pattern. The pre-war pattern is irrelevant by reason of the war-time wrenching of the economy which has intervened.

Coercive Wartime Powers

The exercise in peace-time of war-time powers must thus inevitably hamper and prevent rather than aid and encourage the great economic readjustments called for by return to peace. Their exercise must inevitably degenerate into a bureaucratic taking from some for the supposed benefit of others, instead of taking from all to win the war for everybody. Such war-time powers, untied from the "win the war" purpose, become the politician's paradise—of whatever party—for power means patronage. But, to pur-

sue the metaphor to the end, they simultaneously constitute the nation's economic perdition. Eliminating coercive emergency powers once the emergency is over should assume the character of a religious habit if a people desires to be prosperous and free. All can regard with gratification the widening perception and official recognition of this truth.

Strict adherence to the conviction that each is individually entitled to the fruits of his exertion and to their voluntary exchange is the very essence of individual freedom. You just cannot have one without the other in any meaningful sense. Abolish one and you have abolished the other. How, for example, can you compel anyone to do or not to do anything, in the last analysis, unless, aside from physically injuring or confining him, you have power to deprive him of something against his will? Is there not a saying to the effect that control a man's bread and he is your slave?

In this connection a frequent, but fallacious, contention is that you can refuse to buy a man's goods or services, and so exert so-called economic coercion upon him. But such refusal to buy is practising, not rejecting, the voluntary society. In fact to suppose otherwise is to deny its voluntary nature. Remember, instead, that each who would sell is free to choose among all buyers. Attempted coercion through non-buying thus becomes the buyer's own voluntary self denial, while the attempted coercion merely diverts rather than prevents the sale. No competing producer—or seller for that matter—can exert coercion in voluntary markets.

It is simple economics rooted in human nature, as I have attempted to show, that voluntary markets mean the maximum of production, justice, progress, and freedom. There is only one entity which can destroy those markets. It is government. In other times and places it always has. The coercive or collectivistic, rather than the voluntary, society is the typical one in history. It is the one toward which all others tend to revert.

There are many roads by which we have been travelling toward controlled economy and the omnipotent state. In some respects the broadest are the least



FREIGHT TRAIN ON RUTLAND RAILROAD, VERMONT—WHEELER PHOTOGRAPH FROM DEANLEY

"Voluntary markets are necessarily competitive markets. They are also the only known way of achieving fair prices. It is unfair to compel a seller to take less than competing buyers are voluntarily willing to pay. Similarly, it is unfair to compel a buyer to pay more than competing sellers are voluntarily willing to accept."

perceived. I tag them with the names, "Taxation," "Money," "Monopoly," and "Regulation." I have already dealt with regulation as exemplified in price control.

Take taxation. He who would adhere to the voluntary exchange of goods and services must answer this question: How can each man have what he produces, or its equivalent, if something must be taken from him to support the government? The answer to that question was discovered and written into the Constitution by our forefathers; it was forgotten and written out of the Constitution by their descendants. Our forefathers understood it so well they even had a slogan. It was, "No taxation without representation." But how many people today grasp the full body of meaning for which that phrase stood? It meant, of course, that taxes were to be determined

by the *voluntary* consent of taxpayers expressed through their elected representatives—and that is what taxation must always mean in a *voluntary* society if such a society is to endure.

But that raised another technical question with which statisticians, but not too many others, are thoroughly familiar. It is the question of the representativeness of the sample selected. In this case the question was how to assure that elected representatives do, in fact, constitute a truly representative sample of taxpayers. Our forefathers found the answer to that also, and wrote it into the Constitution.

Unequal Tax Burdens

The principle can be simply stated: In a society of free men taxation must always equally burden the members of the electorate. In voting taxes, the representative must know that he distresses

those of the majority which elected him as much as those in the minority opposing him.

Break that principle, as we did in the XVIth Amendment which gave majorities in Congress unlimited power to despoil minorities, and see what the economic results must inevitably be! At times great pressure will be brought to bear upon the legislature relatively to concentrate taxes upon the more productive minority to the supposed relief of the majority. This was feared by Madison when the Constitution was written, and it was prophesied by Lord Macaulay in 1857. It has now happened.

The levying of taxes on minorities by those elected by majorities has certain ominous moral aspects which are very important. But I am now seeking, instead, to point out the cold economic consequences to American productivity. Those economic consequences are almost shockingly simple and direct. They may be cast, for example, in terms of the creation of productive jobs.

Think as one will, but there is no other way in which a self-sustaining productive job can come into existence except for someone, in the hope of profit, to save and invest his money in providing the tools of production. But if the majority decides to tax away large amounts of that hoped-for profit either directly, or by progressive taxation of individual income, then the incentive and ability to save and invest in the job-creating tools of production is diminished. The creation of new jobs fails to keep pace with the release of workers from existing jobs as efficiency increases and with the normal additions to the working force. So chronic unemployment as in the '30's is obviously invited.

The second economic consequence is to injure the mechanism for adjusting production to the changing patterns of demand. Consider, for example, how shifting production from buggies to automobiles would have been hampered if the profit in producing automobiles had been taken in taxes for subsidizing, in effect, the lesser profits or losses of buggy-makers. The inducements and the pressures to make production conform to demand would have been diminished. Mal-adjustment would have remained and that,

again, means less production. In short, by travelling one hidden road to collectivism, we seemingly must next set our feet upon another broad but even more hidden road, and so double the speed of our progress, without knowing where we are going. That brings me to the matter of money.

The economics of money is obscure to most people. That is one reason for believing that political manipulation of the money supply is the most deceptive and devastating of all the means for transforming the highly productive voluntary society into the sterile authoritarian state—while at the same time it is the most popular and seemingly plausible means for preserving private enterprise by supposedly stabilizing over-all production. That only makes it the more dangerous.

There are certain things we must understand. The stuff we use to pay bills—that is, money—consists first, of the coins and printed currency we carry in our pockets and, secondly, of bank deposits subject to check, the deposits being about four-fifths of the total. Most of us can only get this money by ourselves concurrently selling something—whether it be our property or our labor. If that were always true for everybody, there would be no problem. No one could go into markets and purchase something out of them except

by having equivalently contributed something to them. The money one had, as a command over other peoples' products, would match one's own products made available to others. The money claims against goods would match the goods to be claimed. Money would truly be, then, a stable medium of exchange.

The Nature of Inflation

But our money isn't that way. It can be printed instead of earned. The first step is for the government to print bonds—promises to pay. The next step is to take those bonds to the commercial banks. There these government promises to pay in the future are swapped for the bank's promise to pay on demand—that is, for a bank deposit. That is what a bank deposit is: it is the bank's liability to pay in gold if called upon to do so. Since everyone expects that the bank would pay if called upon and allowed by law to do so, these liabilities or deposits are themselves used as money. We transfer them to each other by writing checks in exchange for the goods and services we get from each other.

The significant thing is that simply by making entries in their books banks can create deposits for use as money. The process is the monetary equivalent of the paper money printing press, and

in fact it actually starts with a printing press—the one which prints the government's promises to pay some time in the future. This is something that people must understand because the process has been employed to multiply the supply of money sixfold since 1933, and three times since 1939, while the right of people themselves to police the inflation by converting their money into gold has been denied them.

The new money to spend in markets is obtained without concurrently contributing goods or services to the markets. The balance between money going to market and goods going to market is thus destroyed. The extra money competing for goods bids prices up. That is inflation, and that is the only possible way it can occur. Then the inflation becomes the excuse for jumping over onto another road to state-ism—the road of price control, rationing, allocation, production directives, priorities, and so on, all of which directly destroy the voluntary market, and undermine the maximum production of the most wanted goods it otherwise promotes. Just to close the spiral for an instant at this point, it may be noted that the resulting unemployment in turn becomes the excuse for printing and spending more money, while the increased spending and rising debt be-

(Continued on page 48)

The voluntary society provides the maximum possible stimulus to each individual's productive capacity without undermining a similar stimulus to other individuals. Break that principle—as collectivistic societies do—so that some can take without paying for it what others produce, and individuals tend to be diverted from the pursuit of individual productivity to the competitive practice of getting something for nothing with the aid of the State—that is, from exploitation of natural resources and processes to despoliation of each other.

NEW YORK HARBOR—MAC CRAMLICH PHOTOGRAPH



PAGE 15

Picturing Production Costs —

A "FORMULA" APPROACH



DEVANEY PHOTOGRAPH

HOLLOWAY KILBORN

Assistant Secretary-Treasurer, Drop Forging Association

An effective means of determining production costs and allocating the burden rates thus obtained as a percentage of direct labor or as hourly or tonnage rates on machines or processes is presented by Mr. Kilborn. This method, designed for firms which do not keep burden ledgers, is explained in detail and illustrated by charts.

THE problem of determining burden rates has always been troublesome. The usual method used for machine-hour rates has been the allocation of expenses by means of a burden ledger. This is not only laborious and exacting and therefore expensive, but it abounds with estimates. No two accountants will allocate all the expenses in the same manner. The usual method is to divide all expenses into three classes—fixed, semi-fixed, and variable. Actually there are all mixtures from 0 per cent variable (for short periods) to 100 per cent variable.

The practical result is that only a few companies, and in general the larger ones, actually determine their own burden rates. It is equally important that the others know their burden; it was in an effort to give those other companies an inexpensive means of learning the facts that the method set forth here has been developed.

The method looks formidable. That is because the theory is explained while doing an actual problem. Actually, one sheet of paper would produce the results if no explanation were attempted. It is, however, important, that anyone

using a method should understand it. It is recommended that after studying the method the business man set up his own figures and parallel the steps as they are outlined. There is necessarily considerable preliminary work, especially when determining hourly

burden ratio scale at the proper point. It would seem to be unnecessary to say that this method in no way helps to decrease burden except to the extent that it points out conditions as they actually exist. Any accountant who wishes to do a few hours "spade work"

business in this manner suggests the possibility of applying to the elements composing cost the principles of analytical geometry. This branch of mathematics deals, as its name implies, with analyzing geometrical figures. It is algebra applied to geometry and is particularly suited to problems involving lines and figures.

Every accountant who deals with the problem of varying costs would do well to be sufficiently familiar with analytical geometry to use it as a tool. It would greatly simplify many of his analyses.

Finding Standard of Burden

This paper, which determines standard burden rates by using these principles, is concerned with (1) finding the standard burden based on the previous action of burden over a period of several years; (2) allocating the standard burden thus obtained as a percentage of *direct labor*, or to the machines and processes which are expected to earn it. The term "standard" is used rather than "normal" to avoid confusion. There are many concepts of normal which it is not necessary to discuss here. The word "standard" as used here means the rate of operation, however determined, at which the burden rates selected will exactly earn the total burden spent. It is the rate of production over which the accountant, in the burden ledger method of determining rates, spreads the fixed charges.

This method depends on two assumptions: (1) the profit chart is a true representation of the facts, and (2) the price of direct labor and the price of the sum of all the items composing burden remain in a reasonably constant ratio. The best support for the first assumption is experience and the wide acceptance of that fact by accountants.

The second statement is not so obvious. It is not contended that a 10 per cent increase in labor today will be followed tomorrow by an equal increase in burden. It is, however, the contention that burden will eventually have an equal increase. If one will compare prices of 30 years ago with free market prices today, he will find that the prices of widely separate commodities have increased in substantially the same ratio as labor. (Government controlled prices, however, either directly or



DEVANEY PHOTOGRAPH

and tonnage rates for machines and processes, but it will be well repaid in later savings of time and in confidence in the results.

This procedure does not make burden ledgers obsolete; they tell the detail—this method tells only the answer. It was designed for those who do not keep such ledgers. For those who do, one method can very well be a check on the other.

On the contrary, the portion of this method which allocates burden to machines and processes would not be possible were it not for previous determinations by the ledger method. New machines require the ledger method to fit their burdens into the

can develop the formulas for his own plant, which will, with the expenditure of a few minutes every month, tell him his current burden costs. Knowledge of the facts is the first step toward correction.

It must have been many years ago that an accountant first used a sheet of graph or co-ordinate paper to draw a picture of the action of his accounts under varying rates of operation.

All accountants today are familiar with the so-called Profit Chart (chart I, page 17) which, at any rate of operation, pictures (1) the sales and (2) the total cost, either with or without division into several elements.

Picturing the financial actions of a

through special taxes, will naturally destroy the ratio for those particular items.) Even the real estate tax which we sometimes think of as constant has joined the common increase. This is natural if we analyze the things which real estate taxes buy.

Were the second statement not true it would be quite impossible to use a percentage of direct labor as overhead, as is done in so many plants. Such a percentage is satisfactory because it is expected that there will be a fixed ratio between direct labor and burden at the



DEVANEY PHOTOGRAPH

standard rate of operation.

The best "proof of the pudding is in the eating." If we base a method on assumptions, and the end results are reasonable, it is certainly proof that the assumptions were sufficiently accurate to give reasonable results.

Finding the Standard Burden

The theory to be proved in finding the standard burden is that the product of burden and rate of production, divided by direct labor, is a straight line on the Profit Chart regardless of the accounting periods from which the data are selected.

The proof by algebra starts with the fact that Burden is a straight line on the chart and that Direct Labor is also a straight line (chart II). Let $B =$ Burden, $D =$ Direct Labor, $R =$ Rate of Production, and $K =$ A constant. Then $B = K_1 + K_2R$ and $D = K_3R$.

The product of the burden and the rate of production, divided by direct labor is

$$\frac{BR}{D} = \frac{(K_1 + K_2R)R}{K_3R} = K_1 + K_2R$$

which is a straight line. This will also

be true even if the points on the line are determined from different price levels because if L represents the price level of a particular accounting period, then $LBR \div LD = BR \div D$ at any value of L .

It is only necessary that the same price level be used for both B and D for the period in question, and that is necessarily true if they are both taken from the same profit and loss statement. For any other period costs will be at a different level, but since the level of the cost of labor and the level of the cost of burden move together they will cancel each other. That is $L_1 \div L_1 = L \div L = 1$ (always). Therefore, the product of the burden and rate of production, divided by direct labor, will always give points on a straight line, regardless of the accounting period from which data are selected.

Proof by Inspection

The proof of the statement can be demonstrated by inspection. Assume a Profit Chart showing only burden and direct labor (chart III). By inspection one can see the following relationships:

When $R = 1$	$D = .5$	$B = 2.25$	then $BR \div D = 4.50$
2	1.0	2.50	5.00
3	1.5	2.75	5.50
4	2.0	3.00	6.00

If one plots the values of $BR \div D$ they get the results shown in chart IV, and it can be seen that the points actually do fall on a straight line. If the line is extended to $R = 0$ the value at that point is 4. It is evident that the value of $BR \div D$ is 4, plus .5 for each unit of R , or expressing it as a formula or equation $BR \div D = 4 + .5R$.

Now suppose that the four points were obtained from values of burden and direct labor taken from the profit and loss statements for four different years, and the years and general price levels (L) were as follows:

$R = 1$	from 1937	with price level at	80
2	1938		90
3	1939		140
4	1940		120

Since the price level affects both burden and direct labor it is evident that when

$R = 1$	$D = .5$	(80) = 40, and	
	$B = 2.25$	(80) = 180, then $BR \div D = 4.50$	
$R = 2$	$D = 1.0$	(90) = 90, and	
	$B = 2.50$	(90) = 225, then $BR \div D = 5.00$	
$R = 3$	$D = 1.5$	(140) = 210, and	
	$B = 2.75$	(140) = 385, then $BR \div D = 5.50$	
$R = 4$	$D = 2.0$	(120) = 240, and	
	$B = 3.00$	(120) = 360, then $BR \div D = 6.00$	

Thus one sees that he has the same final values of $BR \div D$ which he had before. Therefore, the product of the burden and rate of production, divided by direct labor, will always give points on a straight line regardless of the accounting period from which the data are selected.

Determine Equation

By selecting accounting periods over a wide range of operating rates the line and its equation can be easily determined. The percentage change of this line with R is the same as the burden line. One can see this by comparing charts III and IV. In chart III the value of B drops from 3 at $R = 4$, to 2 at $R = 0$, or a ratio of 3 to 2. In chart IV the value of $BR \div D$ drops from 6 to 4 over the same range or a ratio of 6 to 4 = 3 to 2. This can also be proved algebraically because $D = KR$. Therefore $BR \div D = BR \div KR = B \div K$ and so $B \div K = 4 + .5R$, the value of K depending on the price level at that time.

The purpose of obtaining the relationship between the burden and the operating rate is to enable one to start with the burden at the actual operating rate and from that find out what the burden would be at the standard rate. If one arbitrarily selects $R = 2$ as the standard rate he can see from chart IV that the burden at $R = 4$ is $6/5$ of standard and at $R = 3$ it is $5\frac{1}{2}/5$ of standard, and so on. These relations could be taken from the chart but it is handier to find a general formula. We know at $R = 2 =$ standard that $B \div K = 4 + .5R = 4 + .5(2) = 4 + 1 = 5$ and at any operating rate $B \div K = 4 + .5R$.

The ratio of these two values is

$$\frac{5}{4 + .5R}$$

which can be somewhat simplified by multiplying both numerator and denominator (which does not change the value of the ratio) by 2. Then the ratio is

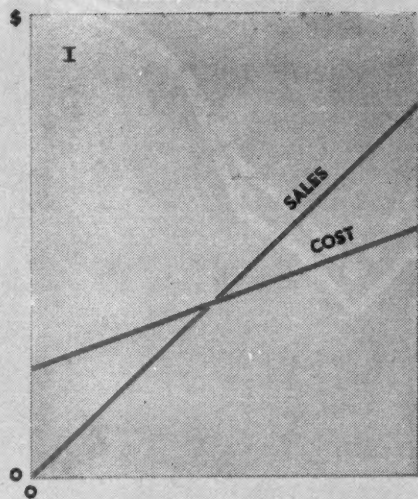
$$\frac{10}{8 + R}$$

If then one multiplies the burden at any operating rate by this fraction he will get the value of the burden at the standard rate of $R = 2$.

(Continued on page 70)

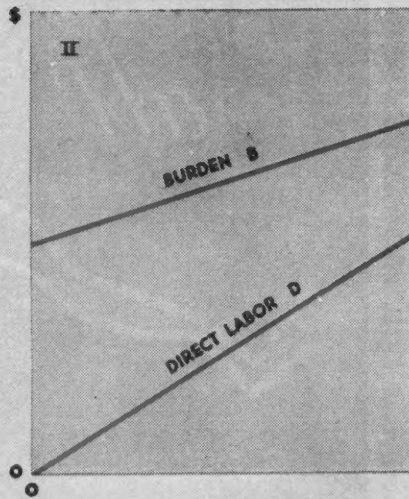
DETERMINATION OF PRODUCTION COSTS THROUGH ANALYTICAL GEOMETRY

SALES, TOTAL COSTS



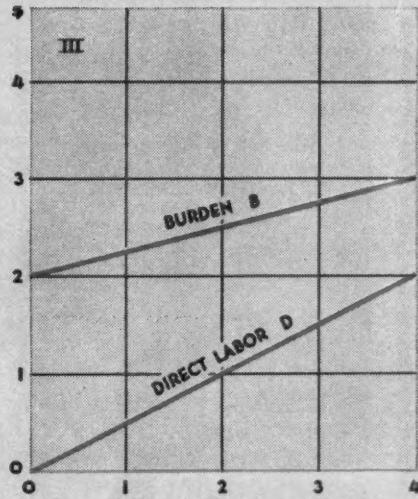
RATE OF OPERATION

PROOF BY ALGEBRA



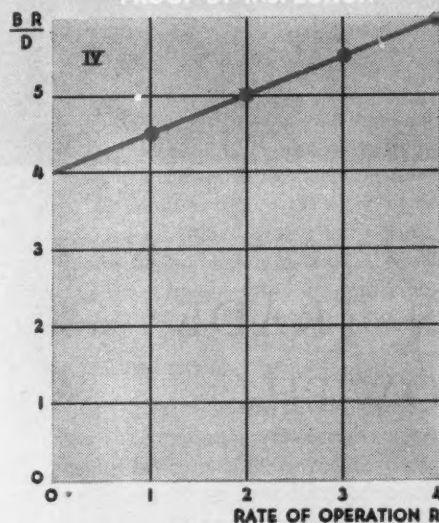
RATE OF OPERATION R

PROOF BY INSPECTION



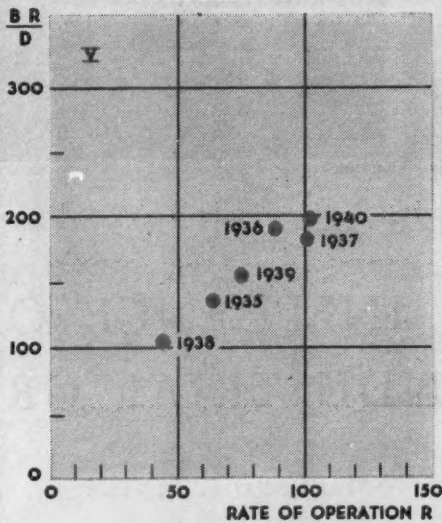
RATE OF OPERATION R

PROOF BY INSPECTION



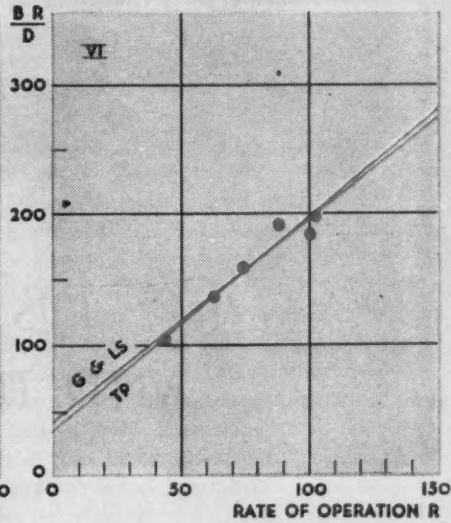
RATE OF OPERATION R

A PROBLEM PLOTTED



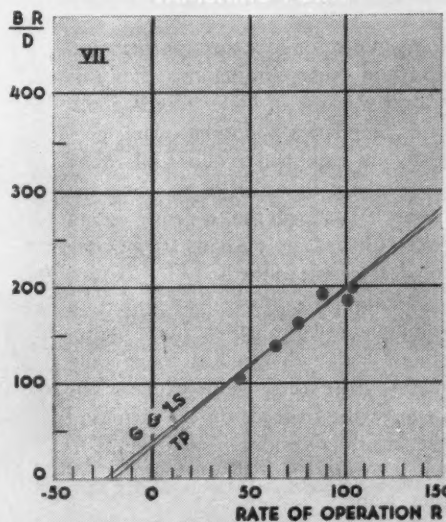
RATE OF OPERATION R

THE STRAIGHT LINE



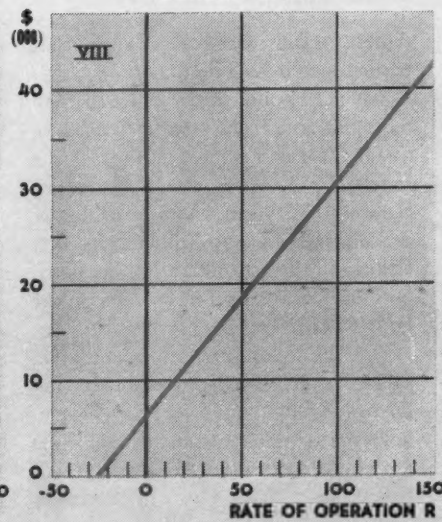
RATE OF OPERATION R

VANISHING POINT



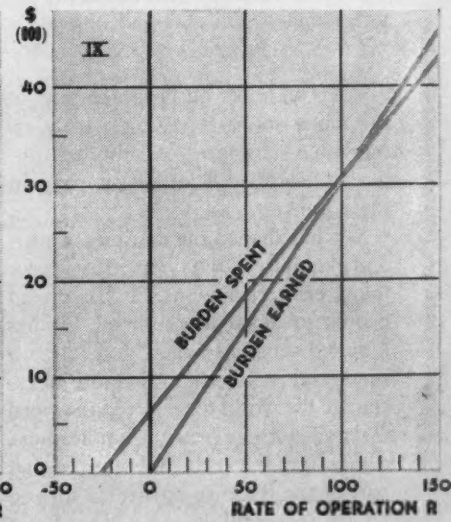
RATE OF OPERATION R

BURDEN SPENT



RATE OF OPERATION R

"SPENT" AND "EARNED"



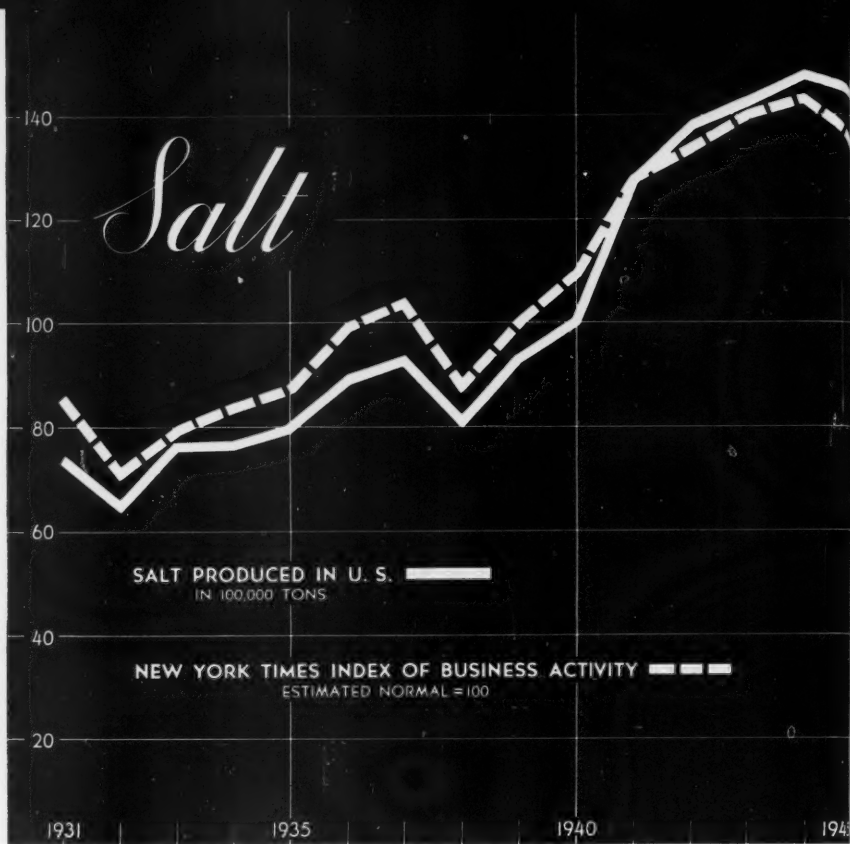
RATE OF OPERATION R

How the formulas for determining burden rates are developed and how they are used in computing production costs by means of analytical geometry are illustrated in this series of charts,

described in the text. The theory behind the determination and allocation of standard burden is explained during the solution of an actual cost accounting problem.



SILVER SALTCELLAR PRESENTED TO NEW COLLEGE, OXFORD, IN 1492



THE RISE AND FALL OF SALT PRODUCTION IN THE UNITED STATES CLOSELY FOLLOWS THE INDEX OF BUSINESS ACTIVITY

Salt: ITS INFLUENCE ON TRADE AND INDUSTRIAL GROWTH

EDWARD B. TUSTIN

Worcester Salt Company

WHEN you "pass the salt" at the table, you are passing a truly remarkable substance. All through history it has played important parts in life's drama.

Salt has shaped the destinies of men and of empires. It has served as a peace token between nations. It has united people in blood brotherhood. It has fathered religious beliefs and superstitions and has been a medium of exchange the world over. Even the word "salary," with its pleasant implications, comes from the Latin "salarium"—that part of the Roman soldier's stipend which was paid in salt. The Latin

American Indians, too, had a significant name for salt—"white magic."

Salt is the only mineral which man requires regularly as a food. According to Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association* and *Hygeia*: "Sodium Chloride or common salt probably ranks first among all the salts in the human body, both in quantity and in its value in the body's nutrition."

Nutritionists estimate that adults require about one-half ounce of salt per day, or twelve pounds per year, to enable the various glands to hold the amount of water they need for proper functioning. The supply of salt in the body must be continually renewed to

compensate for loss through perspiration and other elimination. For this reason workers in boiler rooms, foundries, laundries, and in hot places generally are cautioned to take a salt tablet occasionally in order to restore the saline balance of the system. Being overcome by heat is usually attributable to a lack of salt in the body.

Salt also is the source of an important component of the gastric juice, hydrochloric acid, without which foods could not be digested. This explains the great saving in feeds on the farm and the healthier condition of all animals when livestock are allowed all the salt they want.

Salt is a preservative of foods and last

year 1,400,000 tons were employed in the United States for meat packing, fish curing, butter and cheese, for canning and preserving, for bakery products, and for household use. Some 800,000 tons in addition were used on the farms in feeding stock and as a fertilizer. Root type vegetables such as sugar beets and sweet potatoes respond greatly to salt as a supplemental fertilizer, the yields being increased up to 50 per cent following salt applications of 500 pounds to the acre.

Contrary to popular belief, the smallest proportion of the country's salt production is used for human consumption and on the farm. While about 12 pounds per capita is the steady annual consumption of salt in foods, the employment of salt for all purposes has increased from 97 pounds per capita in 1910 to 228 pounds per capita in 1945.

Salt use closely parallels the index of general business activity as illustrated in the chart on page 20. Our tremendous salt consumption last year of 15,400,000 tons reflects the giant strides taken by industry, and the creation in recent years of new products out of salt and its derivatives, sodium and chlorine.

Industrial Uses of Salt

A telling blow was struck at Japan's silk industry some years ago in the discovery of rayon, a fabric manufactured by means of caustic soda, which comes from salt. Our history-making modern plastics owe their existence to salt compounds. Synthetic rubber is made from coal, lime, water, and salt.

Salt is an ingredient of a large number of things used in everyday life. The bearings and parts in your automobile have been case hardened with a salt derivative. There is salt in the steering wheel and in the anti-knock in gasoline.

Nylon yarn, dyes, and the insecticide D.D.T. depend on salt as do glassware, fire-extinguisher fluids, photographic materials, sweeping compounds, soot removers, refrigerants, anaesthetics, "sulfa" drugs, and vitamins and other pharmaceuticals, as well as the chlorine used to purify drinking water. More than 266,000 tons of salt were needed in 1945 just to preserve skins and hides for leather.

Because of its preservative qualities, the ancient Romans considered salt to be a sacred article of food, and it was a matter of religious principle with them to place salt on the table first. At the repast of the wealthy citizen a silver saltcellar, which was often an heirloom, was placed in the middle of the table, and the same custom prevailed in Europe in early times. Medieval saltcellars were often elaborate pieces of craftsmanship, sometimes 1½ feet in height and exquisitely chased. One made of silver was sold for \$10,000 at auction several years ago in England. A magnificent saltcellar in the form of an elephant was the property of John, Earl of Warrenes, in 1347. The

elephant head today is the trademark of the Worcester Salt Company.

Until the end of the seventeenth century, the rank of guests at table was indicated by their seating with reference to the massive silver saltcellar. At the head of the table, "above the salt," sat the host and his more distinguished guests. The less noble sat "below the salt." In the eleventh century the laws of King Canute provided that any person sitting at a banquet above the position to which he was entitled should be "pelted out of his place by bones at the discretion of the company."

Salt Used as Money

In most sections of the world salt formerly was a scarce commodity, which probably gave rise to the superstition that salt spilling means misfortune.

Among the ancient Chinese salt was considered second in value only to gold and so held an important place in the monetary system of the Great Moguls. Marco Polo, in the thirteenth century, wrote of flat cakes of salt, bearing the seal of the Great Khan, which were used as money in Tibet.

When the hordes of Mussolini invaded Ethiopia, the native hunters refused to accept Italian currency in exchange for skins, but instead demanded bars of salt. Even today, salt takes the place of money in parts of Africa and the South Sea Islands.

At a recent exhibition of monies of the world in New York City, Ethiopian salt currency was displayed—bars of salt 4 inches wide and 15 inches long constituting the equivalent of a dollar in purchasing power; and the wife-buying salt money of the country of Sierra Leone, on the Atlantic coast side of Africa. In Sierra Leone salt money is made by pounding salt in narrow bamboo baskets, and ten of them will buy a wife.

Economic history has been well seasoned with salt, some historians writing that it was the first article of commerce traded through the Mediterranean by the world's first traders, the Phœnicians.

Salt has enjoyed a very prominent place in the commerce of most nations of ancient and modern times up to the

(Continued on page 64)

WELL AT WORCESTER SALT COMPANY REFINERY, SILVER SPRINGS





SOMERVILLE, ME.—PHOTO FROM STANDARD OIL CO. (N. J.)

The Trend OF BUSINESS

PRODUCTION . . . PRICES . . . TRADE . . . FINANCE

In 1946 economic activity was affected by the problems of reconversion from a war to a peace economy. In December industrial output dropped slightly from a post-war high; Christmas buying broke all previous records. The cost-of-living continued upward.

1946 was a year in which most phases of economic activity were at the highest levels in any peacetime period. The problems of industrial reconversion, of the demobilization of about 9,000,000 service men, and of a drastic drop in Government expenditures, were sufficiently overcome so that industrial production for the year averaged about 5 per cent above that in

1941; employment excluding the armed forces rose to a record height of about 58,000,000 by mid-year; and national income was at a peak level about 1.7 times that in 1941.

The economy in 1946 was and still is upset by labor-management difficulties and increased living costs. The number of man-days of work lost due to strikes in 1946 was the largest on

record. Wholesale commodity prices in December were more than 30 per cent above those a year ago; the cost-of-living was up almost 20 per cent. Weekly earnings in manufacturing averaging \$45.65 in November were \$4.50 or 11 per cent above those in January but \$1.68 below the wartime peak. The average number of hours worked in manufacturing was down 0.8 of an hour to 40.2 from January to November.

The record volume, \$127 billion, spent by consumers for goods and services in 1946, about 1.7 times that in 1941, was due to extensive demand and high prices. The demand was backed up by large liquid asset holdings of individuals, totalling \$152 billion in mid-1946, almost double the amount in 1941.

Businesses preparing for increased consumer demand expanded inventories during the year. The dollar volume of inventories was further augmented by rising prices and at the end of 1946 business inventories were about 25 per cent above those of a year earlier. About a 40 per cent rise during the year in commercial, industrial, and agricultural loans reflected the plans to expand production and better production facilities.

The Federal Government's policy of debt retirement during 1946 resulted in a decline in Government deposits and securities held by banks and brought the total public debt from \$279.2 billion on February 28 to \$258.7 billion on December 18, 1946. This policy and a reduction in the Government's deficit spending shut off a source of new inflationary money.

A sharp decline in stock market prices in the middle of 1946 indicated the uncertainty of many as to the future of business activity. Dow-Jones industrial stocks in December were valued 10 per cent below those a year previous.

Industrial Production

Seasonally Adjusted Index: 1935-1939 = 100 Federal Reserve Board

	1943	1944	1945	1946
January	227	243	234	160
February	232	244	219	153
March	235	241	215	168
April	247	237	230	165
May	239	236	225	159
June	237	235	220	170
July	240	230	210	172
August	242	232	196	177
September	244	239	167	160
October	247	232	162	161
November	247	232	165	182
December	241	232	163	182*

* Approximation; figure from quoted source not available

Production The walkout in the bituminous coal mines which ended early in December and the usual slackening in production over the Christmas holidays reduced total industrial output slightly in December. Output in December, after allowances for seasonal changes, was 79 per cent over the 1935 to 1939 average, according to the Federal Reserve Board (a later figure than the one on the chart). In the early part of January there were gains in total production.

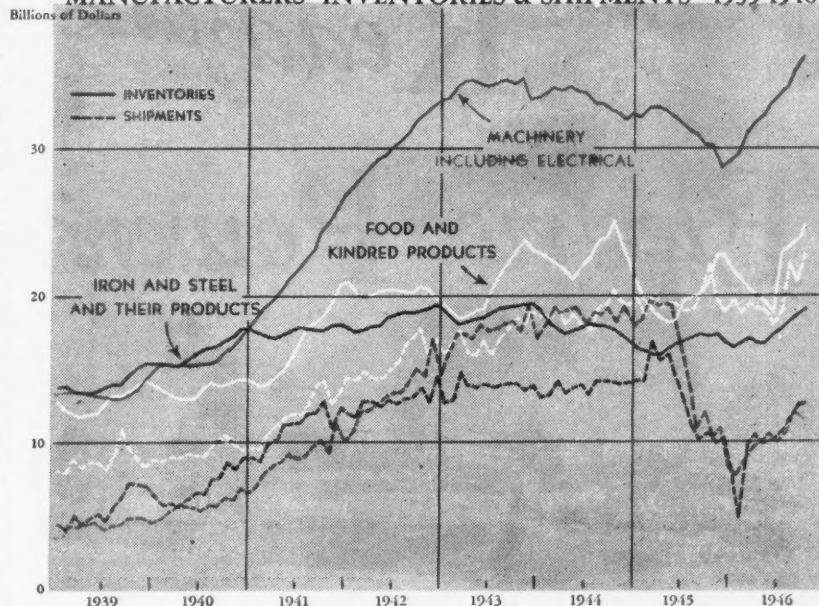
Production of steel ingots and castings and bituminous coal, set-back somewhat in November and December, was close to post-war peaks early in January 1947. A record for the year 1946 was set in the December output of passenger cars. Paper mills operated each week in December at over 100 per cent of capacity until the last week when the holidays caused a drop.

From the beginning of January to the first of December 1946 the dollar value of durable goods inventories increased by a larger percentage than that for nondurable goods. Automobile and textile mill products industries led in the inventory rise, with gains of over 35 per cent. As seen in the following chart the inventories in those industries which account for the largest portion of total inventories, rose sharply in the last months of 1946. Average monthly inventories were larger in relation to manufacturers sales in 1946 than in 1941 only in the following industry lines—iron and steel and their products, machinery including electrical, automobile, and other transportation equipment.

Employment With the November all-time peak in nonagricultural employment raised further in December offset by a moderate seasonal drop in agricultural employment, total employment declined slightly to 56,310,000 in December. Unemployment which continued practically unchanged since August, amounted to 2,120,000 persons. In December 1946 there were 5,150,000 more persons employed as in the same 1945 month; there were 150,000 more persons unemployed than there were a year ago.

The seasonal increase in employment in trade and government was primarily responsible for the gain in nonagricul-

MANUFACTURERS INVENTORIES & SHIPMENTS—1939-1946



Inventories of the individual industries shown on the chart and of manufacturers as a whole rose steadily in the latter part of 1946. This inventory rise was paced by manufacturers' shipments. By October 1946 inventories of manufacturers of food were 1.1 times shipments while the monthly average of inventories in 1939 was 1.4 times shipments; in iron and steel inventories were 1.5 times shipments in October 1946 and 2.5 in 1939; and in machinery inventories were 3.1 times shipments in both periods. (U. S. Dept. of Commerce.)

tural employment from November to December. Manufacturing industries had almost 2,000,000 more employees in December 1946 than in the previous year. Construction employment had practically doubled during the year. Mining, transportation and public utilities, and finance and service industries increased employees by between 5 and 10 per cent from December 1945 to December 1946. There was only about a 5 per cent decline in employment in Federal, State, and local government, excluding Federal force-account construction.

Income With the usual heavy year-end disbursements of dividends and interest, December income payments were estimated to be at an all-time high. Large wage and salary payments by trade and service establish-

ments and a continued rise in factory payrolls helped maintain nonagricultural income payments at a high level in December.

Although income from wages and salaries in the first eleven months of 1946 was 6 per cent less than in the corresponding 1945 months due to a decrease in military and Federal civilian payrolls, disbursements by private industry were 6 per cent higher. A record farm income for 1946 was estimated by the U. S. Department of Agriculture. Cash receipts from livestock and crops in the first eleven months of 1946 were 14 per cent higher than in the same 1945 months, due more to higher prices than to larger output.

Prices Higher prices of a number of nonagricultural commodities were responsible for the 3 per cent

Employment

Millions of Persons, U. S. Bureau of Census

	1943	1944	1945	1946
January	51.4	50.4	50.1	51.0
February	51.2	50.3	50.6	51.2
March	51.2	50.5	50.8	51.5
April	51.6	51.3	51.2	54.1
May	51.6	51.0	51.3	54.9
June	54.0	53.8	54.4*	57.8
July	54.8	54.0	54.4*	57.8
August	54.4	53.2	53.6	57.7
September	53.0	52.3	51.4	57.1
October	52.2	52.2	51.6	57.0
November	51.7	51.5	51.5	57.0
December	51.0	50.6	51.2	56.3

* New series.

Wholesale Commodity Prices

Index 1926 = 100, U. S. Bureau of Labor Statistics

	1943	1944	1945	1946
January	101.9	103.3	104.9	107.1
February	102.5	103.6	105.2	107.7
March	103.4	104.8	105.3	108.9
April	103.7	103.9	105.7	110.2
May	104.1	104.0	106.0	111.0
June	103.8	104.4	105.9	112.9
July	103.2	104.1	105.9	121.7
August	103.1	103.9	105.7	120.1
September	103.1	104.0	105.2	124.0
October	103.0	104.1	105.9	134.1
November	102.9	104.4	106.8	139.6
December	103.2	104.7	107.1	143.6*

* Approximation, figure from quoted source not available

Need **Ready** Electric Power?



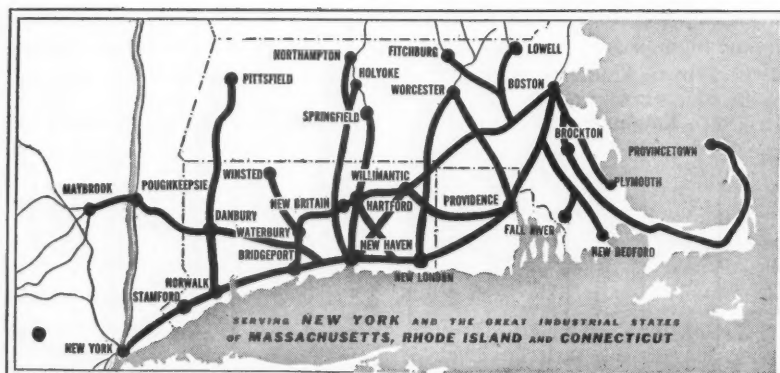
*Billions of Kilowatt Hours are
produced annually in
Southern New England.*

The high concentration of industry in Southern New England has resulted in a network of power facilities second to none in America. In this compact area, transmission lines are short and industry is assured of an adequate and dependable power supply at reasonable rates through numerous inter-connected feeder lines.

A well-integrated power supply is just

one of the many industrial advantages to be found in Southern New England. For more facts on all the benefits available for your new plant location, write for the new booklet, "SOUTHERN NEW ENGLAND FOR TOMORROW'S INDUSTRY." Address: P. E. Benjamin, Mgr., Industrial Development, New Haven R. R., Room 200E, 80 Federal Street, Boston 10, Mass.

THE **NEW HAVEN** R. R.



Consumers' Price Index

Index: 1935-1939 = 100; U. S. Bureau of Labor Statistics

	1943	1944	1945	1946
January	120.7	124.2	127.1	129.9
February	121.0	123.8	126.9	129.6
March	122.8	123.8	126.8	130.3
April	124.1	124.6	127.1	131.1
May	125.1	125.1	128.1	131.7
June	124.8	125.4	128.5	133.3
July	125.9	126.1	129.4	141.2
August	123.4	126.4	129.3	144.1
September	123.9	126.5	128.9	145.9
October	124.4	126.5	128.9	148.4
November	124.2	126.6	129.3	151.7
December	124.4	127.0	129.9	155 *

* Approximation; figure from quoted source not available.

increase in the general level of wholesale prices in December. Price advances from November to December were most marked in building materials and hides and leather products. Farm products and foods formed the only commodity groups in which wholesale prices decreased during the month. The percentage rise in prices from November to December was largest in semi-manufactured goods; the next largest rise was in manufactured commodities. Raw materials prices increased only fractionally.

In December 1946 wholesale prices of all commodities combined were about 34 per cent above those in the previous year. The highest price gains among commodity groups were in foods which were about 48 per cent higher in December 1946 than De-

WHOLESALE FOOD PRICE INDEX

The index is the sum total of the price per pound of 31 commodities in general use:

1947	1946	1946
Jan. 28...\$6.18	Jan. 29...\$4.12	High Nov. 19...\$6.49
Jan. 21... 6.10	Jan. 22... 4.12	Low Jan. 22... 4.12
Jan. 14... 6.23	Jan. 15... 4.14	1945
Jan. 7... 6.20	Jan. 8... 4.14	High Nov. 27...\$4.16
Dec. 31 '46 6.21	Jan. 1... 4.15	Low Sept. 4... 4.04

DAILY WHOLESALE PRICE INDEX

The index is prepared from spot closing prices of 30 basic commodities (1930-1932 = 100).

1947	1946	1946	1946	1946
Jan.	Dec.	Nov.	Oct.	Sept.
1.... *	† ...	232.56	229.64	† ...
2....	242.26	239.82	230.21	230.76
3....	244.37	240.39	† ...	231.58
4....	244.53	240.52	234.25	232.06
5....	† ...	239.59	† ...	232.66
6....	243.71	241.36	233.05	† ...
7....	243.75	241.61	231.83	232.72
8....	244.33	† ...	233.65	233.56
9....	243.14	241.13	233.81	233.57
10....	241.78	240.85	† ...	234.00
11....	241.77	242.84	† ...	234.50
12....	† ...	242.28	235.34	† ...
13....	240.87	243.36	236.13	† ...
14....	240.37	244.35	238.38	233.42
15....	239.59	† ...	238.59	243.90
16....	238.48	244.88	239.09	242.63
17....	236.77	243.55	† ...	233.75
18....	235.81	246.48	239.64	234.85
19....	† ...	244.90	240.15	233.47
20....	235.68	245.23	241.05	† ...
21....	234.65	245.00	239.79	235.60
22....	233.78	† ...	240.00	236.73
23....	232.80	245.59	240.16	239.03
24....	233.36	246.34	† ...	240.40
25....	233.11	† ...	240.97	237.39
26....	† ...	245.75	240.36	† ...
27....	233.75	245.76	239.87	† ...
28....	233.05	244.30	† ...	235.56
29....	235.30	† ...	240.74	233.71
30....	235.88	243.40	240.47	230.41
31....	243.35	† ...	231.02	229.73

† Sunday. * Markets closed.



You'll recognize familiar headaches in the following example.

SALES REPORT - THIS WEEK		SALES DOLLAR \$: _____								
SALES DOLLAR \$:		SALES BY SALESPERSON								TOTAL SALES
Products Available This Week		B	C	D	E	F	G			
Cat.	Description	Unit Price								
S-0001	Super Super Marine Three (1/2)	\$ 1.10								
S-0414	Ball & Boatwing Assembly	2.10								
S-0415	Boatwing Assembly	1.00								
S-0200	Super-Magnal-18 Surf	9.00								
S-0712	Super-Magnal-18 Surf	9.00								
S-0412	Long-Flowermore-Halibut	1.00								
S-0413	Long-Flowermore-Halibut	1.00								
S-0414	Long-Flowermore-Halibut	1.00								
S-0409	Lower Ball Sails	14.00								
S-0714	Spring-End Ball Lower	1.00								
S-0410	Spring-End Ball Lower	1.00								
S-0411	Spring-End Ball Lower	1.00								
S-0412	Spring-End Ball Lower	1.00								
S-0413	Spring-End Ball Lower	1.00								
S-0414	Spring-End Ball Lower	1.00								
S-0415	Spring-End Ball Lower	1.00								
S-0416	Spring-End Ball Lower	1.00								
S-0417	Spring-End Ball Lower	1.00								
S-0418	Spring-End Ball Lower	1.00								
S-0419	Spring-End Ball Lower	1.00								
S-0420	Spring-End Ball Lower	1.00								
S-0421	Spring-End Ball Lower	1.00								
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S-0426	Spring-End Ball Lower	1.00								
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S-0439	Spring-End Ball Lower	1.00								
S-0440	Spring-End Ball Lower	1.00								
S-0441	Spring-End Ball Lower	1.00								
S-0442	Spring-End Ball Lower	1.00								
S-0443	Spring-End Ball Lower	1.00								
S-0444	Spring-End Ball Lower	1.00								
S-0445	Spring-End Ball Lower	1.00								
S-0446	Spring-End Ball Lower	1.00								
S-0447	Spring-End Ball Lower	1.00								
S-0448	Spring-End Ball Lower	1.00								
S-0449	Spring-End Ball Lower	1.00								
S-0450	Spring-End Ball Lower	1.00								
S-0451	Spring-End Ball Lower	1.00								
TOTAL SALES										

You're bound to be surprised at this

1. File records can be kept on translucent cards, data added periodically, and up-to-the-minute Ozalid prints made in seconds, whenever desired.
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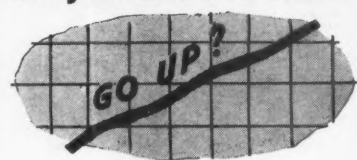
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When domestic sales slump, manufacturers will turn to the export market. It's a wise manufacturer who investigates the foreign market NOW! Vermilye Corporation, unlike most exporters, does not accept any product for foreign distribution until it has conducted its own survey of world markets, and analyzed the potential demand for a product in each country.



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December 1945; hides and leather products were up 42 per cent; and chemicals and allied products were up 30 per cent.

Retail prices did not rise as sharply as wholesale prices during 1946. Living costs for moderate income city families, as measured by the U. S. Bureau of Labor Statistics' consumers' price index, were almost 20 per cent higher in December than a year ago. Food prices led all commodities in the gains over a year ago; they were about 33 per cent higher. Other living costs such as fuel, clothing, housefurnishings, and rent ranged from 5 to 15 per cent higher.

Trade Before Christmas stores had more goods of better quality and of higher price than in the previous year. Although some discrim-

Retail Sales

Seasonally Adjusted Index, 1935-1939 = 100; U. S. Department of Commerce

	1943	1944	1945	1946
January	158.1	175.6	193.3	237.6
February	168.4	173.9	193.9	237.3
March	161.3	177.9	196.4	241.6
April	159.0	169.6	180.6	236.2
May	156.5	174.5	184.6	236.9
June	164.2	174.4	186.4	238.7
July	164.4	179.4	195.4	247.5
August	165.9	180.7	196.2	261.4
September	166.6	179.1	195.2	256.5
October	169.3	185.0	207.8	260.3
November	174.1	192.0	220.1	273.1
December	171.4	187.7	216.8	268 *

* Approximation; figure from quoted source not available.

ination on the part of customers for good quality and against high prices was evident, the dollar volume of retail sales in December was the highest in history. Clearance sales held even before the holiday helped to boost volume. It is estimated that more than \$10 billion of goods were sold in December, 17 per cent more than a year ago. After adjustment for seasonal changes, retail sales volume in December was estimated at a level slightly below that in November but about 24 per cent above that in December 1945.

The dollar volume of sales at the wholesale level in December was estimated to be more than 30 per cent above that in the corresponding 1945 month. The gains over a year ago in the latter months of 1946 far exceeded those earlier in the year but, as in retail trade, to a great extent price increases accounted for the rise.

Finance As the turnover of shares on the New York Stock Exchange increased in December, stock prices averaged higher in the month. The Dow-Jones indus-

S.C. GOVERNOR PLEDGES...



All-Out Aid TO NEW INDUSTRIES

Industry, new and old, can count on my wholehearted support to help them prosper. I think our industrial efforts should be expanded, and I will do all within my power to see that new enterprises are extended all the cooperation they need to find proper locations in South Carolina and to establish their businesses.

J. Strom Thurmond

Governor of South Carolina.

Having people on your side is a valuable asset to industries and businesses coming into a State for the first time. South Carolinians, from the Governor to the man on the street, are eager to do all they can . . . more than just a wordy welcome, you'll find. For specific information about sites, labor supply, taxes and the possibilities for your particular industry or business, write State Research, Planning & Development Board, Dept. L, Columbia, S. C.

South Carolina

WHERE RESOURCES AND MARKETS MEET

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No training or ex-
perience necessary.
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Smith-Corona *a modern* adding machine with a famous old name

YOU'LL be surprised how easy it is to add on a Smith-Corona. You will get your totals quickly and accurately, too.

When you press the keys they stay down until you pull the handle, thus you are able to see each item before it is entered and if a correction is necessary you can clear a single digit or the entire keyboard. Ciphers are entered automatically, saving you time and effort.

At a touch of the total key and a single pull of the handle your total appears in large, easy to read type, fully punctuated and followed by a total signal. In one motion the new tape ejector moves the tape to the tear-off position and, on the next pull of the handle, a clear signal will appear on the tape.

With the Smith-Corona there is no mental effort, no doubt about accuracy, no experience required. And 25 years of hard usage have proved

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The handy desk size machine takes up little room, is easily carried. Ideal for offices, retail stores, service stations, professional offices, farms, homes, hospitals, schools, clubs and restaurants.

At all Smith-Corona branches and at leading typewriter and office supply stores everywhere. Priced at only \$93.50 plus tax.

All these features:

One hand operation
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Industrial Stock Prices

Monthly Average of Daily Index, Dow-Jones

	1943	1944	1945	1946
January	121.52	137.74	153.95	158.00
February	127.40	135.97	157.13	199.40
March	131.15	139.07	157.22	194.37
April	134.13	137.19	160.40	205.87
May	138.60	139.22	165.38	206.00
June	141.25	146.45	167.33	207.32
July	142.90	148.37	163.96	203.27
August	136.34	144.74	166.16	199.44
September	137.00	145.20	177.96	172.72
October	138.25	147.68	185.07	169.48
November	132.66	146.88	190.22	168.94
December	134.57	150.35	192.74	174.38

trial stock price average rose in December for the first month since the sharp fall in September. The peak for 1946 in the industrial averages came during May with the lowest point reached in October, when the averages were 23 per cent below the May high.

Commercial, industrial, and agricultural loans by Federal Reserve member banks in 101 cities totalled about \$10.3 billion in December, a little over \$3 billion more than in December, 1945. Excess reserves of member banks stood at \$1 billion on January 1, 1947; about \$400 million below the total a year previous. About \$28 million of currency was in circulation by the beginning of 1947, almost \$0.5 million more than was in circulation at the same time a year ago.

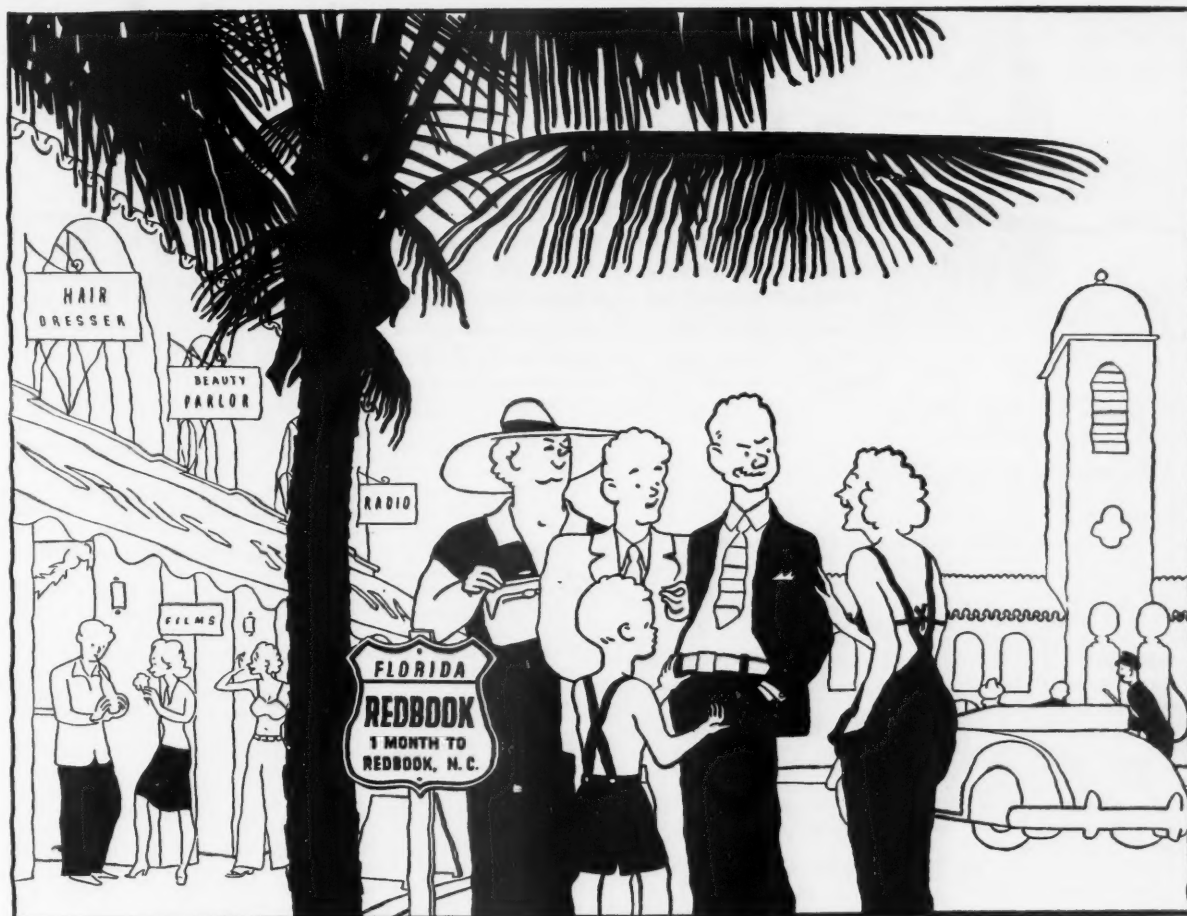
(Continued on page 32)

NEW BUSINESS INCORPORATIONS

	Nov.	Oct.	Sept.	Nov.
	1946	1946	1946	1945
Alabama	1946	1946	1946	1945
Arizona	74	95	106	33
Arkansas	46	54	59	30
California	40	40	29	25
Colorado	62	77	75	417
Connecticut	64	74	64	39
Delaware	156	148	172	136
Florida	213*	228	228	234
Georgia	310	372	306	205
Idaho	129	168	136	69
Illinois	9	364	264	20
Indiana	473	622	549	423
Iowa	138	149	192	98
Kansas	71	75	76	37
Kentucky	37	64	32	23
Louisiana	60	59	69	34
Maine	179	107	126	81
Maryland	40	43	32	20
Massachusetts	110	154	126	122
Michigan	305	360	350	299
Minnesota	227	331	318	233
Mississippi	92	144	154	63
Missouri	70	82	88	28
Montana	110	161	155	109
Nebraska	31	13	22	6
Nevada	37	42	52	18
New Hampshire	52	40	63	31
New Jersey	27	35	29	24
New Mexico	501	714	558	573
New York	20	25	20	10
North Carolina	2,330	2,805	2,579	2,309
North Dakota	136	150	160	112
Ohio	6	12	18	2
Oklahoma	359	383	417	371
Oregon	65	55	29	32
Pennsylvania	93	80	87	46
Rhode Island	249	900	255	154
South Carolina	60	76	81	54
South Dakota	13	75	74	40
Tennessee	26	18	16	7
Texas	94	115	105	59
Utah	320	316	255	111
Vermont	33	42	29	18
Virginia	10	26	21	12
Washington	106	132	97	62
West Virginia	115	141	144	89
Wisconsin	56	76	60	34
Wyoming	121	151	205	113
	13	21	11	7

Total 48 States . . . 8,487 10,799† 9,551† 7,120†

* Preliminary. † Revised.



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They haven't much excuse for holding back when they have \$139,400,000 left for spending after paying their taxes.

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(CONTINUED FROM PRECEDING PAGE)

WM. STAIRS, SON & MORROW LTD. HALIFAX, N. S. Est 1810. Seeks exclusive representation Maritime Provinces of N. S., N. B., P. E. I., for all kinds heavy and light machinery used by contractors, industry, municipalities, trades, institutions. Already well established in heavy construction field, with showrooms, trained sales engineers, and service shop facilities.

VANCOUVER IRON WORKS LTD. VANCOUVER, B. C. Mfrs. of boilers, pressure vessels, steel pipe, welded plate work, general engineering. Desire to obtain manufacturing rights on any of above lines.

WESTMINSTER IRON WORKS CO. LTD., NEW WESTMINSTER, B. C. Mfr. or exchge. Mfg. rts. gen. mach., cut off saws, weldments, fab. equip. WILLARD EQUIPMENT, 860 Beach Ave., VANCOUVER, B. C. Machinery dealers, building supplies, importers, exporters. (Etab. 1919.) WRIGHT INDUSTRIES LIMITED, TORONTO. Will manufacture and/or sell machinery and metal specialties. Desire to exchange manufacturing rights including sensational new Weldright Tire and Tube Vulcanizer.

JOHN G. YOUNG & CO. LTD., MONTREAL. Importer, distributor. Seeks machinery, mill, engineering, material handling, foundry equipment.

Manufacturers Agents (General)

BARNEY ADLER & SONS, INC., 1260 University St., MONTREAL. Mfrs. exclusive gold mountings and jewelry. Established Canada-wide connections jewelry trade. Seek represent manufacturers exclusive compacts, plastic or sterling gold and platinum mounts and watch cases.

CANADIAN BELTING MFRS. LTD., MONTREAL. Seek new lines industrial, mechanical, railway supplies for Canada-wide distribution.

EGAN-LAING AGENCIES LIMITED, 437 Mayor Street, MONTREAL 2. Now representing important United States textile manufacturers, in selling and distributing to leading Canadian manufacturing and wholesale accounts—would be interested in a line of coverings for furniture and mattress manufacturers. We already have well established connections.

H. HACKING CO. LTD. VANCOUVER. Canadian sales organization having branch offices coast-to-coast seeks additional agencies.

W. A. McLAREN EXPORT CORP. LTD. VANCOUVER. Desire Agencies for building materials, builders' hardware, insulation products, also electrical fixtures, appliances, plumbing, heating items.

GEO. L. McNICHOL CO. LTD. 325 Howe St., VANCOUVER. Corkboard for low-temperature insulation, direct from source of supply to buyer. DAVID PHILIP AGENCIES LTD., WINNIPEG. Mfrs. agents. Connections established 1905. Selling jobbers and manufacturers. Seek new lines in general hardware, sporting goods, and auto accessories.

HAROLD F. RITCHIE & CO. LTD., TORONTO. 45 salesmen cover drug & grocery trade all Canada. Services, storage, billing, collecting. ROBINSON & WEBBER LTD., WINNIPEG, MAN. Manufacturers Agents, calling on jobbers and department stores. Hardware, cutlery and glassware.

PROFESSIONAL SERVICES

Accountants (Chartered)

MARITIME PROVINCES

LEE & MARTIN. Chartered Accountants. Maritime Telephone Bldg. HALIFAX, N. S. & 43 Alma St., MONCTON, NEW BRUNSWICK.

ONTARIO

CLARKSON, GORDON & CO., Chartered Accountants, 15 Wellington Street, West, Toronto 1, Montreal, Hamilton, Winnipeg & Vancouver.

WILTON C. EDDIS & SONS, Chartered Accountants, (Established 1895), 85 Richmond Street West, TORONTO 1, ONTARIO.

EDWARDS, MORGAN AND COMPANY, 10 Adelaide St., TORONTO. Offices also at Montreal, Winnipeg, Vancouver, Timmins and Calgary.

ROBERTSON, ROBINSON, McCANNELL & DICK, Chartered Accountants. Sterling Tower Bldg., TORONTO. Tyshler Bldg. CHATHAM, ONT.

THORNE, MULHOLLAND, HOWSON, & McPHERSON, TORONTO, KITCHENER & GALT. Ontario. Rep. throughout Canada & United States.

RUTHERFORD WILLIAMSON & CO., Chartered Accountants, 66 King Street West, TORONTO 1, ONTARIO. Telephone Ad. 7385-6.

QUEBEC

ANDERSON & VALIQUETTE, Chartered Accountants, 84 Notre Dame St. W., MONTREAL 1, QUEBEC. Telephone Plateau 9709.

MAHEU, NOEL & CO., Chartered Accountants, 10 St. James St. West, MONTREAL, Ma. 7754. Branches at Sherbrooke and Granby, Que.

P. S. ROSS & SONS, Chartered Accountants, MONTREAL 1, QUE., TORONTO, WINNIPEG, CALGARY, VANCOUVER and SAINT JOHN, N. B.

WESTERN CANADA

GRIFFITHS & GRIFFITHS, Chartered Accountants. The Royal Bank Building, VANCOUVER, B. C. Phones Tatlow 1161 and 1162.

ISMAY, BOISTON, DUNN & CO. VICTORIA, B. C. Chartered Accountants. 305-7 Pemberton Building. Telephone Garden 3732.

MILLAR, MACDONALD & CO. Chartered Accountants, 395 Main Street. WINNIPEG, MAN., 304 Bay St. TORONTO and in Owen Sound, Ontario.

Appraisers

THE INDUSTRIAL VALUATION CO. LTD., MONTREAL. An authority on Physical Values. Industries, Public Utilities, Etc. Inquiries invited.

Legal

GOWLING, MacTAVISH, WATT, OSBORNE & HENDERSON, Barristers and Solicitors, 56 Sparks St., OTTAWA, Ontario, Canada. Tel. 2-1781.

LACOSTE & LACOSTE, Lawyers, Barristers, Solicitors, Etc., 221 St. James St. West, Provincial Bank Bldg., MONTREAL, Que., La. 7277.

MONTGOMERY, McMICHAEL, COMMON, HOWARD, FORSYTH & KER, Barristers and Solicitors, Royal Bank Building, Montreal 1, Quebec.

Novelties, Leather Goods, Advertising

J. C. S. VARCOE, 45 Yonge St., TORONTO. Can provide Canada-wide distribution, advertising novelties of all kinds; gifts, premiums for every occasion. Sales promotion by means of merchandise.

Paper, Paper Products

LAUZIER PAPER LTD., Wholesale Fine Paper Dealers, MONTREAL. Book, bond, cover, Bristol, blotting, fancy, specialty papers.

MacGREGOR PAPER & BAG CO. INC., MONTREAL. Interested in distribution of paper products, Quebec and Maritime Provinces.

Stationery, Books, Office Supplies

COLUMBIA PAPER CO. LTD., VANCOUVER, B. C. Want stationery, office and school supplies for wholesale distribution, Western Canada.

McFARLANE SON & HODGSON (LIMITED), MONTREAL (B 1837). Seek lines for Canadian distribution. What have you?

THE WILLSON STATY. CO. LTD. WINNIPEG and VANCOUVER. Retail, wholesale and manufacturing facilities covering all Western Canada.

Textiles, House Furnishings, Apparel

BUCKWOLD'S LTD. SASKATOON, CANADA. Importers, distributors, textiles, work clothing, ladies', men's, children wear, floor coverings.

CANADIAN HOMESPUNS, 1174 St. Catherine St., W., MONTREAL. Scarves, ties, tweeds, draperies, upholstery, rugs—specialties to order.

DURABLE ASSOCIATED COMPANIES LIMITED, 460 Richmond St., W., TORONTO, ONT., CANADA. Manufacturers of rainwear, sportswear, casual wear, ladies' suits, ladies' handbags, belts, ladies' and men's umbrellas. Interested in importing and exporting any of above lines.

JOHNS & ALLEN, 1117 St. Catherine St., W., MONTREAL. Wholesale textile distributors. Established. Now distributing nationally advertised lines. Coverage all Canada. Reduce your overhead, invoicing with one account instead of hundreds. Account factored.

MISCELLANEOUS

Bakers', Confectioners', Ice Cream Supplies

BRITISH CANADIAN IMPTRS. LTD., 119 West Pender, VANCOUVER, B. C. Distributors. Serving Western Canada. Wish exclusive lines.

FRANK H. WILEY & SON, VANCOUVER, B. C. (Est. 1905.) Exclusive importer equipment and raw material. British Columbia distribution.

China, Glassware, Jewelry, Plastics

THE CHINA SHOP OF LONDON, LONDON, ONTARIO. Retail china. One of Canada's largest importers of china, crystal, etc., since 1902.

FRANK HACKING (CANADA) LTD. TORONTO 1. Covering coast to coast. Will act as factory representative or exclusive distributor.

Cutlery Tools, Etc.

GEORGE W. LAMPLUGH, MONTREAL. Established importer, seeks exclusive representation Canada—cutlery, tools, household and hotel kitchen specialties, barber, butcher, baker accessories.

General Selling Agents

THE FERON COMPANY. Roy Building. HALIFAX, N. S. We offer thorough coverage of the three Maritime Provinces, N. S., N. B. & P. E. I.

Internal Combustion Motors

AUGUST ZILZ AGENCIES, REGINA, SASK. Manufacturers' representatives and wholesale distributors of reputable and long standing; want gas or diesel engine line for Trans-Canada distribution.

Portable Lamp Manufacturers

LANG BROS., TORONTO. Want china, pottery or white metal bases. Novelty and boudoir lamps and shades. Prefer exclusive designs.

Smallwares, Lamps, House Furnishings

GENERAL SALES CORP., LONDON. Eastern Canada distribution household furnishings, elec. appliances, specialty hardware, warehouse facilities.

Specialty Metals, Plastics

PECKOVER'S LTD., TORONTO. Warehouses across Canada. Interested in agencies plastics, stainless accessories, specialty metals.



OFFICE FURNITURE DESIGNED FOR DIGNITY AND DURABILITY

CHAS. S.

Nathan INC.

Write for Illustrated Booklet

OFFICE FURNITURE AND EQUIPMENT SINCE 1876 • 546 BROADWAY • NEW YORK 12

CAN YOU MEET COMPETITION?

A TEST of good management is ability to meet competition. A program to reduce operating costs, provide controls for more decisive administration and improve industrial relations can give your management tested "tools" with which to maintain progressive and profitable operation in the highly competitive buyers market just ahead.

CONTROLS FOR:
Marketing
Production
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Costs and
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Write today to arrange for a preliminary analysis of your management needs.

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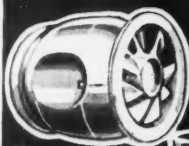
Management Consultants
150 BROADWAY • NEW YORK 7, N. Y.

Do you have a problem in Forced VENTILATION?



Industrial engineers have found **INTERNATIONAL DUCT BOOSTERS, STACK FANS and BLOWERS** to be the answer to effectively removing corrosive acid and high temperature fumes, smoke and dust-laden air from factories, chemical plants, etc.

If you have a problem of forced draft or ventilation, send for descriptive literature showing typical installations in ships and industrial plants, apartment houses and public buildings.



**DUCT BOOSTER
STACK FAN**
ASK FOR
BULLETIN
No. 109



INTERNATIONAL ENGINEERING, INC.
DAYTON, OHIO

In the third quarter of 1946, liquid savings of individuals amounted to \$4.3 billion, \$1 billion less than in the previous quarter. The decline in savings in 1946 was the outcome of an increase in consumer spending beyond the rise in income.

Failures Rising to 141 in December, the highest number in 28 months, business failures totalled 1130 for the year 1946. This marked an upturn from the record low of 810 established in 1945, thus ending the long eight-year decline in failures, which was spectacularly accentuated in the war years. The Failure Index, which indicates the rate of failure per 10,000 business enterprises, rose to 7.4 in December. For the entire year 1946, the rate averaged 5.2 compared with 4.2 in 1945 and 54.4 in 1941.

The aggregate liabilities involved in failures in 1946 reached the largest volume in four years. Twice as heavy as in either 1945 or 1944, losses totalled \$70,349,000. In the month of December alone, liabilities amounted to \$17,105,000, the largest sum recorded for any month since 1939. In 1946 eight concerns failed with liabilities

BUILDING PERMIT VALUES—215 CITIES

Geographical Division:	1946	December 1945	% Change
New England.....	\$6,732,105	\$5,320,403	+26.5
Middle Atlantic.....	48,991,738	33,384,213	+46.7
South Atlantic.....	14,086,430	19,058,114	-26.1
East Central.....	24,417,291	46,494,268	-47.5
South Central.....	16,550,895	47,619,489	-65.2
West Central.....	7,878,602	13,435,923	-41.4
Mountain.....	3,684,647	5,061,101	-38.2
Pacific.....	25,688,002	32,734,721	-21.5
Total U. S.....	\$148,029,710	\$204,008,232	-27.4
New York City.....	\$35,168,491	\$17,599,000	+99.8
Outside N. Y. C....	\$112,861,219	\$186,409,232	-39.5

BANK CLEARINGS—INDIVIDUAL CITIES (Thousands of dollars)

	1946	December 1945	% Change
Boston.....	1,987,675	1,934,698	+2.7
Philadelphia.....	3,734,000	3,235,000	+15.4
Buffalo.....	336,951	275,411	+22.3
Pittsburgh.....	1,154,414	1,073,134	+7.6
Cleveland.....	1,254,174	1,046,463	+19.8
Cincinnati.....	703,108	583,777	+20.4
Baltimore.....	846,285	736,476	+14.9
Richmond.....	524,530	412,378	+27.2
Atlanta.....	979,300	763,000	+28.3
New Orleans.....	506,929	424,247	+19.5
Chicago.....	2,999,110	2,591,300	+15.7
Detroit.....	1,369,588	1,173,582	+16.7
St. Louis.....	1,130,498	917,123	+23.3
Louisville.....	483,166	374,000	+29.2
Minneapolis.....	959,683	733,594	+30.8
Kansas City.....	1,296,437	915,007	+41.7
Omaha.....	472,019	334,746	+41.0
Denver.....	402,555	315,282	+27.7
Dallas.....	844,659	661,453	+27.7
Houston.....	700,912	530,648	+32.0
San Francisco.....	1,705,085	1,504,839	+13.3
Portland, Ore.....	409,802	324,480	+26.3
Seattle.....	434,342	406,520	+6.8
Total 23 Cities.....	25,235,321	21,276,158	+18.6
New York.....	34,497,251	35,166,017	-1.9
Total 24 Cities.....	59,732,572	56,442,075	+5.8
Average Daily.....	2,389,303	2,357,723	+1.4



HEELS, HIDES, HONSHU, HOLIDAY'S— *a Tennessee Story*

When you think of Tennessee you think of many things, but seldom do you think of shoe manufacture. But from a small beginning in that state has come one of the most striking sagas in the whole story of American business enterprise . . . the story of a company which today is integrated from hide tanning to shoe polish, with retail stores, subsidiaries in Mexico and Peru, and no less than seven popular shoe brands on the market—General Shoe Corporation.

Civilians, Women, Children . . .



After incorporation in 1925, the company expanded from the manufacture of men's shoes into other lines, including women's and children's footwear, purses and handbags. And soon the advantages of controlling production of part of the material needed in manufacture became apparent.

Naturally, increased capital was required as the booming business grew, and in 1939 an issue of common stock was underwritten and offered by a syndicate headed by Smith, Barney & Co. Continued growth required additional money and the development of a competent financial program and so, subsequently in 1941 and 1944 debentures were sold. In 1946 these were advantageously refunded by the sale of preferred stock and at the same time new capital to keep pace with the expansion of General Shoe was again provided by the sale of additional common stock.



. . . And G. I.'s

Thus competent management, including a carefully planned financial program, enabled the company, among other things, to undertake needed production for our armed forces during the war; during 1945, 24% of the company's production consisted of military orders, and many a General Shoe heel has trodden the soil of Honshu. The expansion included the acquisition of foreign affiliates, production of finishes and dressing for its factories, a tannery to produce part of the "uppers," manufacture of heels for its own shoes and cartons to wrap them in . . . even polish to shine them and 85 outlets in 50 cities, including the Flagg Bros. and Holiday's stores, through which to sell some of them. Principal advertised trade names are *Jarman, Fortune, Sky rider, Friendly, Acrobat, Flagg and Hardy*.

Again the Sineus



Quite a story of growth in two decades. From 120 to 10,800 employees—new jobs created, with the annual payroll increased from \$250,000 to many millions. Returns to investors have been over \$6,000,000 in this same period.

15,700,000 pairs of shoes annually now contribute to a higher standard of living in America—all helping to build a better America. How was this done? The answer is quickly given—through bringing together good management and capital to provide the tools and labor required for greater productivity. This is the function of an investment securities firm like Smith, Barney & Co. Repeatedly our advice and facilities for underwriting and distributing securities have proven valuable to General Shoe Company and it is our role to provide judgment and professional knowledge in determining the best financial program in any given situation.

Advantages to You



The advantages derived from the relationship between General Shoe and Smith, Barney & Co. have been duplicated elsewhere, not once but often in the long history of this firm and its antecedent firms; in the future we hope to render equally valuable service to others. To tell you more of the story of our firm, we have prepared a booklet entitled "What Smith, Barney & Co. Offers You." A copy may be obtained on request to Department M, Smith, Barney & Co., 14 Wall Street, New York 5, N. Y.

Smith, Barney & Co.

Members New York Stock Exchange

Philadelphia

NEW YORK

Chicago

ONE INVESTMENT FIRM THAT CAN MEET ALL INVESTMENT REQUIREMENTS

BANKERS TRUST COMPANY

NEW YORK



CONDENSED STATEMENT OF CONDITION, DECEMBER 31, 1946

ASSETS

Cash and Due from Banks . . .	\$ 347,623,987.22
U. S. Government Securities . . .	643,442,654.34
Loans and Bills Discounted . . .	499,897,810.69
State and Municipal Securities . .	15,521,664.85
Other Securities and Investments .	38,268,952.59
Banking Premises	14,911,867.64
Accrued Interest and Accounts	
Receivable	4,230,871.17
Customers' Liability on	
Acceptances	1,265,640.23
	<u>\$1,565,163,448.73</u>

LIABILITIES

Capital	\$30,000,000.00
Surplus	80,000,000.00
Undivided Profits 37,153,661.73	\$ 147,153,661.73
General Reserve	15,428,103.18
Dividend Payable January 2, 1947	1,350,000.00
Deposits	1,390,389,699.37
Reserve for Taxes, Accrued	
Expenses, etc.	5,307,613.00
Acceptances	
Outstanding . . \$ 2,245,287.97	
Less Amount	
in Portfolio . . . 979,647.74	1,265,640.23
Other Liabilities	4,268,731.22
	<u>\$1,565,163,448.73</u>

Securities in the above statement are carried in accordance with the method described in the annual report to stockholders, dated January 15, 1946. Assets carried at \$56,363,291.66 have been deposited to secure deposits, including \$34,464,914.86 of United States Government deposits, and for other purposes.

Member of the Federal Deposit Insurance Corporation

in excess of \$1,000,000, more than in any year since 1941. Medium-size failures with liabilities ranging from \$25,000 to \$100,000 turned up from the record low levels established a year ago, although at a more moderate rate of increase. Only small failures with losses under \$5,000 continued, for the fifth straight year, to decline, reaching a new low in 1946. The rate of decline had slackened in this size group in 1946.

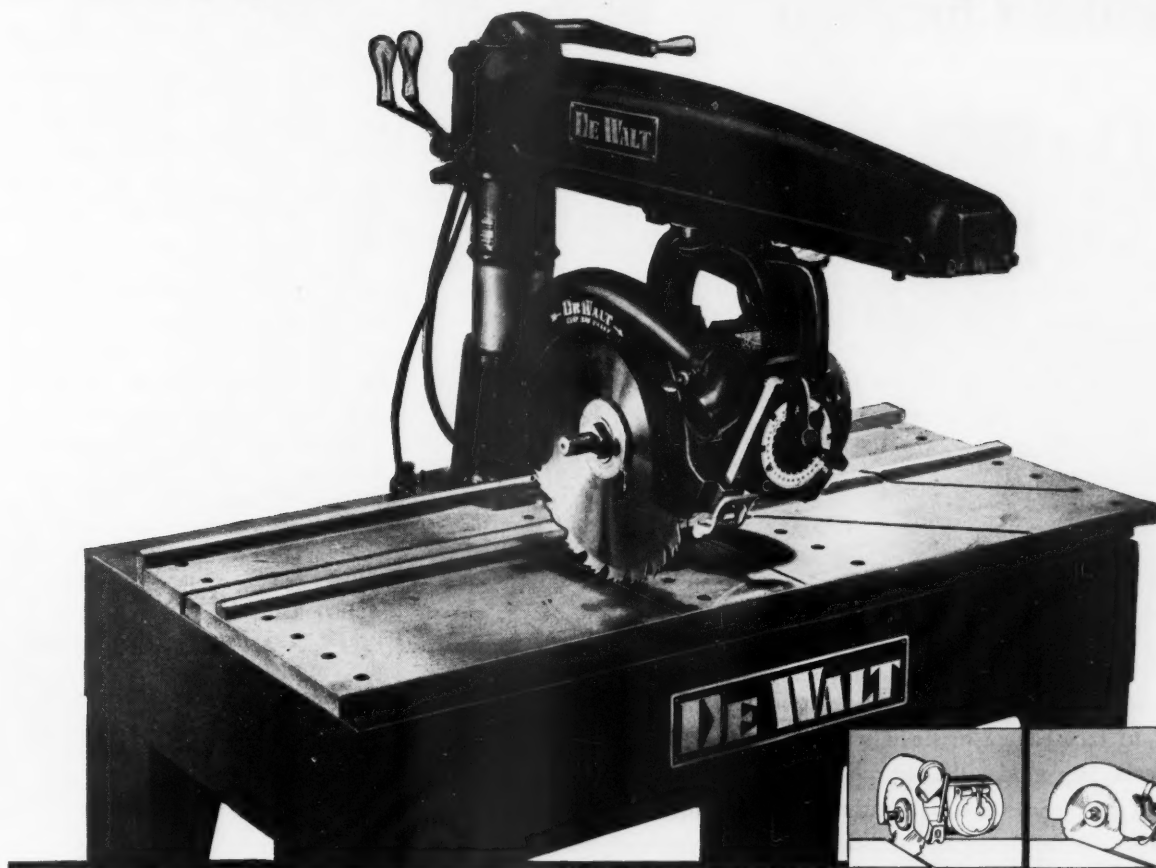
In all industry and trade groups more concerns failed than a year ago. The largest rises occurred in manufacturing and wholesale trade, with about 67 per cent more failures than in 1945; the smallest rise occurred in retail trade where failures were up only 5 per cent. For the first time in failure history, manufacturers failing outnumbered retailers.

Only one individual line of industry or trade, machinery manufacturing, had over 100 concerns failing during 1946. Failures in this industry were more numerous in 1946 than in any year since 1939. In only three other lines did failures run above 50; lumber manufacturing, eating and drinking places, and building subcontracting.

FAILURES BY DIVISIONS OF INDUSTRY

(Current liabilities in thousands of dollars)	Number		Liabilities	
	1946	1945	1946	1945
MINING, MANUFACTURING . . .	466	280	38,887	17,247
Mining—Coal, Oil, Misc. . .	14	17	1,452	2,487
Food and Kindred Products . .	28	14	3,399	527
Textile Products, Apparel . .	27	19	774	311
Lumber, Lumber Products . .	59	49	2,385	1,754
Paper, Printing, Publishing .	15	14	470	640
Chemicals, Allied Products .	19	15	1,501	261
Leather, Leather Products . .	7	8	213	240
Stone, Clay, Glass Products .	9	8	1,193	366
Iron, Steel, and Products . .	26	24	2,085	1,481
Machinery	128	54	10,930	3,644
Transportation Equipment . .	39	12	11,067	3,567
Miscellaneous	95	39	3,418	1,960
WHOLESALE TRADE	99	61	11,480	1,214
Food and Farm Products . .	24	15	8,747	429
Apparel	7	6	425	53
Dry Goods	3	3	46	41
Lumber, Bldg. Mats., Hdwr. .	5	3	270	113
Chemicals and Drugs	9	6	180	90
Motor Vehicles, Equipment .	2	2	126	68
Miscellaneous	40	26	1,686	420
RETAIL TRADE	304	296	6,273	3,127
Food and Liquor	47	51	607	361
General Merchandise	11	11	406	80
Apparel and Accessories . .	42	31	534	211
Furniture, Furnishings . . .	23	6	900	26
Lumber, Bldg. Mats., Hdwr. .	15	14	153	105
Automotive Group	48	32	1,646	555
Eating, Drinking Places . .	70	90	1,252	908
Drug Stores	11	12	49	134
Miscellaneous	37	43	636	747
CONSTRUCTION	139	92	4,340	3,550
General Bldg. Contractors . .	46	21	2,421	2,212
Building Sub-contractors . .	86	65	1,317	940
Other Contractors	7	6	602	398
COMMERCIAL SERVICE	122	87	9,360	5,248
Highway Transportation . .	41	25	7,407	3,903
Misc. Public Services	0	11	0	175
Hotels	4	2	803	486
Cleaning, Dyeing, Repairs . .	12	4	41	56
Laundries	7	2	277	23
Undertakers	2	3	8	26
Other Personal Services . . .	18	9	238	27
Business, Repair Service . .	38	31	595	552

REMINDING you about America's most popular all-purpose woodworking machine!



Before the fighting ended, we started to tell you, as an executive, about America's outstanding woodworking machine.

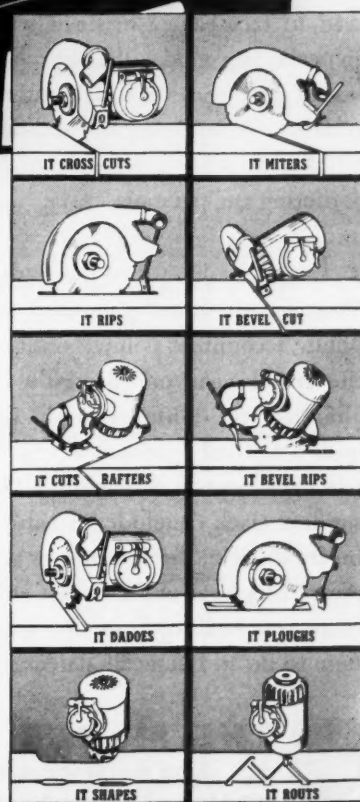
The war-time record of DeWalt proved beyond doubt that this machine is the No. 1 all-purpose saw for your postwar woodworking needs.

Many of the executives who read this magazine responded to our first advertising and secured the necessary technical information to pass along to their men. Many bought DeWalts.

Despite nation-wide shortages during the past year, we have been consistently stepping up production to meet new demands. Deliveries are even better.

If you haven't ordered your DeWalt, remind your buyers to place your order now. Write for new catalog and latest price lists.

DE WALT PRODUCTS CORPORATION
272 Fountain Ave., Lancaster, Penna.



The business that hated Christmas



The Amalgamated management used to face each Christmas with no peace, less good will...and a bad case of jitters. Seasonal rush plus an avalanche of inventory and auditing problems brought on pandemonium bordering on paranoia.

INEVITABLE hazard of the trade? Management thought so until the public accountant pointed out that the fiscal year could easily be changed to conform with the trade's natural business year—in this case, Sept. 1 to Aug. 31. The summer slack concluded a natural business cycle; the inventories and receivables were at the lowest ebb; there was less work to do, more time to do it. Financial statements

prepared at that time gave a clearer picture of business past, provided more reliable indices of business future, supplied a better base for sounder planning. Result: merrier Christmases and more prosperous fiscal New Years to boot!

Helping management heighten efficiency by plotting the natural business year is but one of many valuable services which the public accountant provides for his clients. To do his job well, the accountant needs access to fresh, reliable facts.

McBEE is not an accounting firm, but our products and methods, evolved in forty years, can assist accountants by making the facts available faster.



THE McBEE COMPANY

SOLE MANUFACTURERS OF KEYSORT

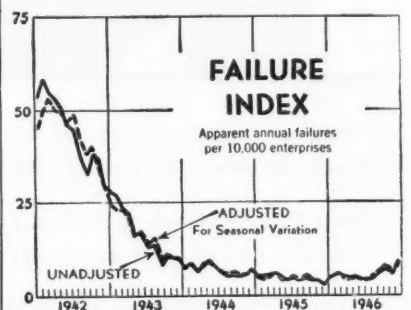
295 Madison Avenue, New York 17, N. Y...Offices in principal cities

In relation to the 1945 failure level, very few lines had a lower number of concerns going out of business in 1946. The one marked decline from a year ago appeared in eating and drinking places where failures were at a record low in 1946.

More than half the year's total liabilities were concentrated in manufacturing. In two individual manufacturing lines (machinery and transportation equipment) liabilities topped \$10,000,000; they were above \$1,000,000 in all except three of the eleven manufacturing lines.

Although in 1946 New York among the twenty-five largest cities had the most failures, 158, they were at a record low for the city. There were increases in failures in most other cities; in Los Angeles they rose to 98, in Chicago there were 50. The aggregate liabilities of failures in New York City totalled \$18,965,000, three times as large a volume as in any other city. In eight cities compared with only two a year ago, losses range above \$1,000,000.

Regionally, the Middle Atlantic and Pacific States accounted for over half the failures occurring in 1946. Only two other districts, the New England and East North Central, had failures running above 100.



THE FAILURE RECORD

	Dec. 1946	Year 1946	Year 1945	Per Cent Change†
DUN'S FAILURE INDEX *				
Unadjusted	7.4	5.2	4.2	+24
Adjusted seasonally...	7.4
NUMBER OF FAILURES...	141	1,130	810	+40
NUMBER BY SIZE OF DEBT				
Under \$5,000	21	263	270	-3
\$5,000-\$25,000	64	489	343	+43
\$25,000-\$100,000	36	252	146	+73
\$100,000 and over...	20	126	51	+147
NUMBER BY INDUSTRY GROUPS				
Manufacturing	58	466	280	+66
Wholesale Trade	16	99	61	+62
Retail Trade	35	304	290	+5
Construction	18	139	92	+51
Commercial Service...	14	122	87	+40

LIABILITIES (in thousands)

Current	\$17,105	\$70,349	\$30,395	+131
Total	\$17,255	\$76,463	\$34,345	+123

* Apparent annual failures per 10,000 enterprises, formerly called DUN'S INSOLVENCY INDEX.

† Per cent change of year 1946 from year 1945.



TREASURE MAP OF INDUSTRY

California *



A vast opportunity for development awaits industrial and commercial concerns planning a west coast location.

California's population, steadily increasing, offers a tremendous easy-to-reach market.

Raw materials . . . minerals, petroleum, lumber and agricultural products are available in large quantities.

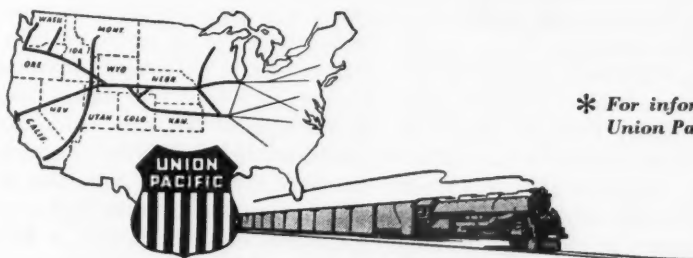
The Golden State is ideally located for Pacific export trade.

Hydro-electric power, nearby natural gas and oil fields, a mild all-year climate are industrial advantages.

Freight transportation facilities are unsurpassed. California is one of eleven western states served by the Union Pacific Railroad.

For industrial expansion, consider California. For dependable, all-weather transportation, to or from the West, we suggest —

* Other states in the "Union Pacific West" will be featured in succeeding advertisements in this series.

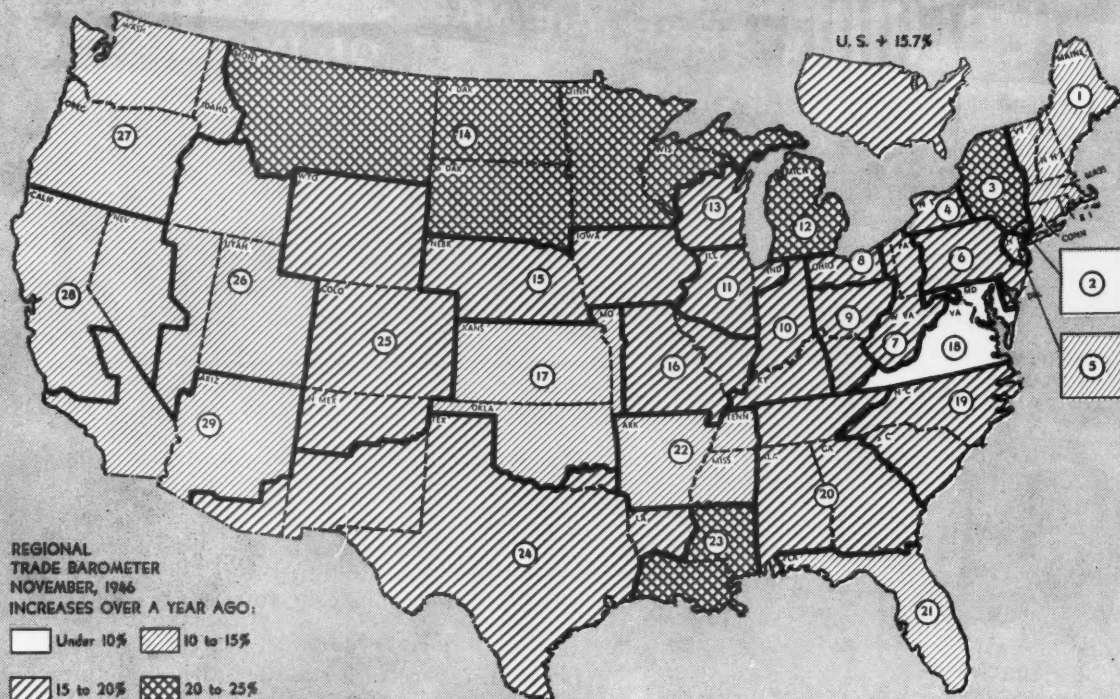


**be Specific —
say "Union Pacific"**

* For information address Industrial Department,
Union Pacific Railroad, Omaha 2, Nebraska.

UNION PACIFIC RAILROAD
THE STRATEGIC MIDDLE ROUTE

TRADE ACTIVITY IN TWENTY-NINE REGIONS



RETAIL BUYING AT NEW HIGH

The United States Trade Barometer (seasonally adjusted) fell to 240.6 in December from 260.4 in November. Regional trade activity is reported by the local DUN & BRADSTREET offices.

THE increase in the volume of consumer purchases of commodities in November resulted not only from rising prices but also from an increase in the physical volume of sales. In terms of dollar volume retail sales were at the all-time high of \$9 billion in November (U. S. Department of Commerce); this was 4.7 per cent above the previous high reached in August. This figure is not adjusted for the seasonal changes of consumer buying habits. Selections of most durable and non-durable goods were larger than a year ago and the continuation of the war-developed habit of early Christmas shopping was apparent during November.

Consumer purchases of commodities rose sharply in November and were 15.7 per cent above those of the corresponding month a year ago as measured by the DUN's REVIEW Trade Barometer. The November Trade Ba-

rometer (1935-1939 = 100, seasonally adjusted) was 260.4; this was 4.4 per cent above the 249.5 for October and was less than 1 per cent below the all-time high of 262.7 reached in August. The adjustment applied to this index eliminates the usual seasonal fluctuations and accounts for the number of business days in the month; it does not allow for price changes.

The level of consumer purchases of commodities continued to rise in the early part of December and was maintained to some extent by clearance sales. The preliminary Trade Barometer for December was 240.6 after seasonal adjustment. Although this was lower than that for any other month in 1946 except January, it was above the level of any month before 1946.

The barometers of all of the 29 regions in November were above those of a year ago and in only five regions

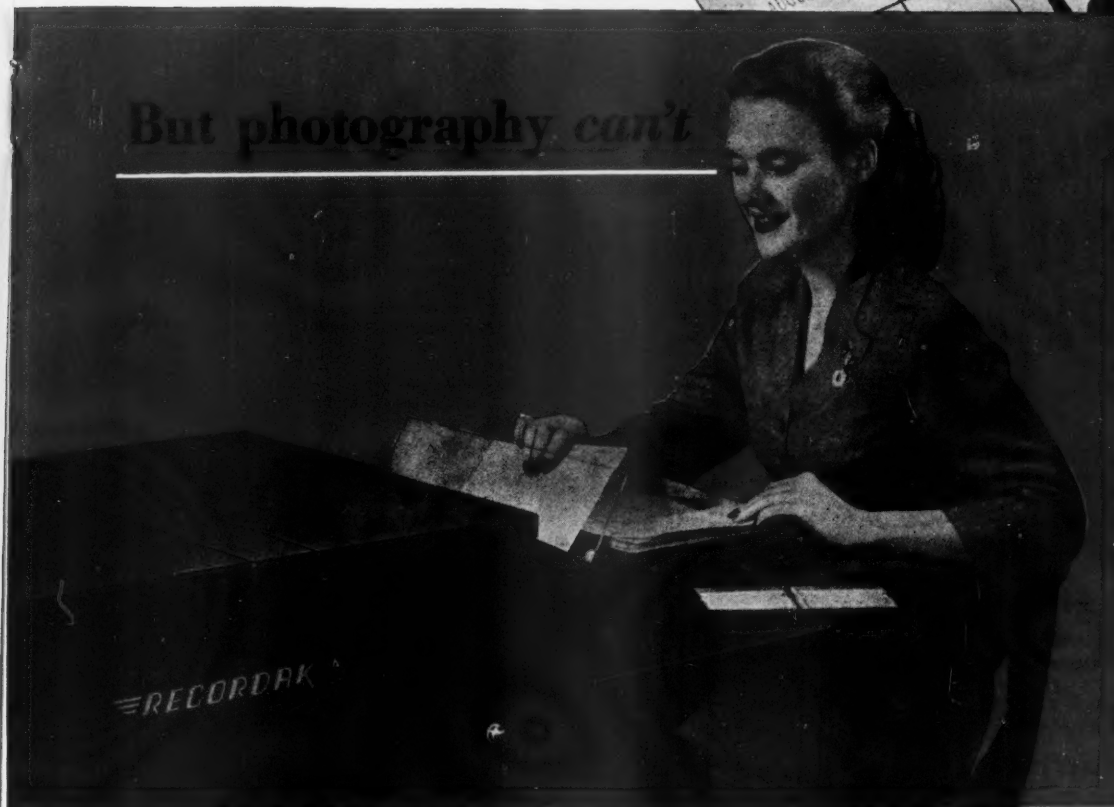
did they fall below the level of the preceding month. The monthly increases ranged from 0.6 per cent in the Iowa and Nebraska Region (15) to 28.1 per cent in the New York City Region (2). The monthly declines were slight and ranged from a drop of 1.8 per cent in the Denver Region (25) to 6.9 per cent in the New Orleans Region (23).

Trade along the West Coast continued to be hampered by the Maritime strike which was not settled until December. Grain shipments from the Kansas City Region (17) were delayed by shortages of box cars. Industrial production in most of the 29 regions continued to rise during November despite minor setbacks in the final week resulting from the soft coal strike. Mild weather was very favorable for agriculture in the Southern, Southwestern, and Pacific Coast regions.

(Regional reports begin on page 40)

The hand can make errors

But photography can't



... that's another reason why more and more firms are handling business routines the photographic Recordak way

● Look into the reasons why business and industry are making such widespread use of Recordak microfilming—and you'll find that these are two of the most important . . .

It's the last word in accuracy. You do not have to worry about omissions or transcription errors with Recordak microfilming. Copying photographically, Recordak gives you records that are exact duplicates of your originals.

It costs very little. No capital outlay is required with Recordak. Recordak equip-

ment is rented . . . for surprisingly little. And Recordak film costs are so low that you can microfilm 1000 letter-sized documents for about \$1.

For complete details on what Recordak microfilming's accuracy and inexpensiveness have meant to others . . . what they can mean to you . . . write for "50 Billion Records Can't Be Wrong." It is free.

RECORDAK CORPORATION

(Subsidiary of Eastman Kodak Company)
350 Madison Avenue, New York 17, N. Y.

RECORDAK
(Subsidiary of Eastman Kodak Company)

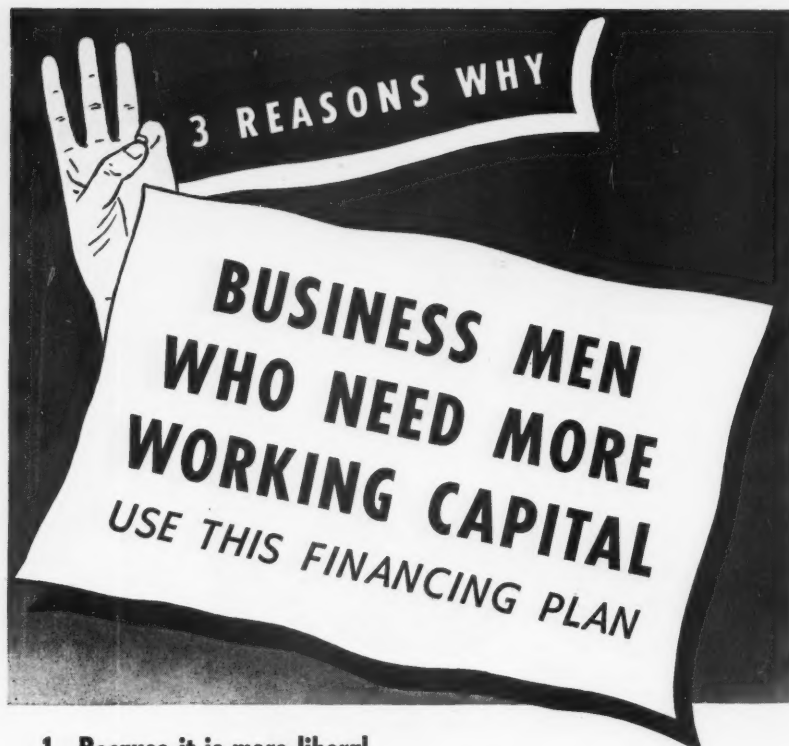
**originator of modern microfilming
—and its uses in business systems**

Mail coupon for your copy—FREE—

Recordak Corporation,
350 Madison Avenue, New York 17, N. Y.
Please send me your free book about Recordak
microfilming—"50 Billion Records Can't Be Wrong."

Name _____ (Please print)
Firm _____ Street _____
City _____ State _____





1. Because it is more liberal

Whether your business needs \$10,000 . . . \$1,000,000 . . . or more . . . you will find that our plan gives you *more money* than usual sources will lend. That's why manufacturers and wholesalers have used the plan to a total of more than *One Billion Dollars* in the past five years . . . and why more than twice as many business firms adopted it in 1946 as did in 1945.

2. Because the cost is low

You may find the cost of using our Plan so low that you would have to secure a rate of 4% per annum, or less, on a commercial time loan to keep the cost comparable. In addition, the plan does this without restricting your management or interfering with your operations.

3. Because it frees you from renewals, calls, etc.

Under our plan you are free from worries about renewals, calls and periodic clean-ups of your loans. You have at your disposal a flexible "revolving fund" which you can continue to use when you need it . . . which costs you nothing except when you use it . . . and then you pay interest only on funds which you are actually using.

SEND FOR THIS FREE BOOK TODAY!

It gives you the complete story . . . dollars and cents comparisons of the low cost of money under our Commercial Financing Plan vs. Time Loans . . . with case histories of growth and profits users have realized through our plan. Write the nearest Commercial Credit office listed below and ask for booklet C.

COMMERCIAL FINANCING DIVISIONS:

Baltimore, New York, Chicago, Los Angeles, San Francisco, Portland, Ore.



FINANCING OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

TRADE ACTIVITY IN TWENTY-NINE REGIONS (Continued)

REGIONAL TRADE BAROMETERS

REGION	Nov. 1946	Change Nov. 1945	% from Oct. 1946
United States	260.4	+15.7	+ 4.4
1. New England	204.8	+13.3	+ 2.2
2. New York City	225.5	+ 7.7	+28.1
3. Albany, Utica, Syracuse	262.8	+21.4	+ 5.2
4. Buffalo, Rochester	262.5	+15.8	+13.7
5. Northern New Jersey	214.1	+13.9	+25.7
6. Philadelphia	235.4	+15.3	+ 4.8
7. Pittsburgh	234.1	+18.3	+ 8.7
8. Cleveland	259.3	+17.5	+ 2.3
9. Cincinnati, Columbus	261.9	+17.0	+ 2.1
10. Indianapolis, Louisville	282.9	+16.2	+ 2.6
11. Chicago	245.6	+15.5	+ 7.1
12. Detroit	259.2	+21.2	+ 1.2
13. Milwaukee	285.7	+16.2	+ 9.6
14. Minneapolis, St. Paul	269.8	+20.3	+ 9.6
15. Iowa, Nebraska	260.5	+19.2	+ 0.6
16. St. Louis	261.9	+16.7	+ 7.6
17. Kansas City	264.6	+13.1	+ 2.2
18. Maryland, Virginia	263.7	+ 7.3	+10.3
19. North, South Carolina	292.0	+15.6	+ 5.2
20. Atlanta, Birmingham	328.2	+15.2	- 2.3
21. Florida	334.8	+13.2	+ 3.4
22. Memphis	279.1	+11.8	- 3.8
23. New Orleans	288.7	+20.8	- 6.9
24. Texas	321.0	+16.7	+ 1.9
25. Denver	262.8	+17.8	- 1.8
26. Salt Lake City	281.2	+12.4	- 2.9
27. Portland, Seattle	301.2	+13.1	+ 2.9
28. San Francisco	284.6	+12.2	+ 3.9
29. Los Angeles	300.8	+10.3	+ 2.9

The Regional Trade Barometers are seasonally adjusted; 1935-1939 = 100.

Regional trade information is based upon opinions and comments of business men gathered and weighed by the local DUN & BRADSTREET offices. Payroll and employment data are from Government sources. Most of the information summarized here represents final figures for November.

Department store sales are from the Federal Reserve Board and are for the four weeks ended December 28, 1946.

More complete barometer figures and more detailed regional information is published in DUN'S STATISTICAL REVIEW.

HIGHLIGHTS OF TRADE ACTIVITY

1. New England Region

Barometer gain over a year ago below U. S. average, rose slightly in month. Wholesale trade well above a year ago. Factory employment considerably above a year ago; payrolls remain at a high level. Production in New England textile mills at post-war peak.

2. New York City Region

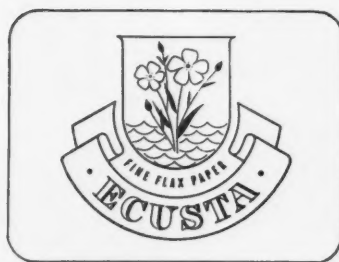
Barometer gain over a year ago second smallest of 29 regions, largest from October. Wholesale trade well above a year ago. Employment generally was at a high level with slight declines in some industries. Retail volume at peak level with clearances generally well received; luxury goods meeting resistance.

3. Albany, Utica, and Syracuse Region

Barometer had largest gain over November 1945 of 29 regions, gain from October above U. S. Wholesale trade considerably above a year ago. Employment and payrolls well above a year ago. Installment credit up in Albany.

(Continued on page 44)

IMPORTANT MESSAGES
SHOULD LOOK
IMPORTANT



FINE FLAX WRITING

LINEN FLAX WRITING

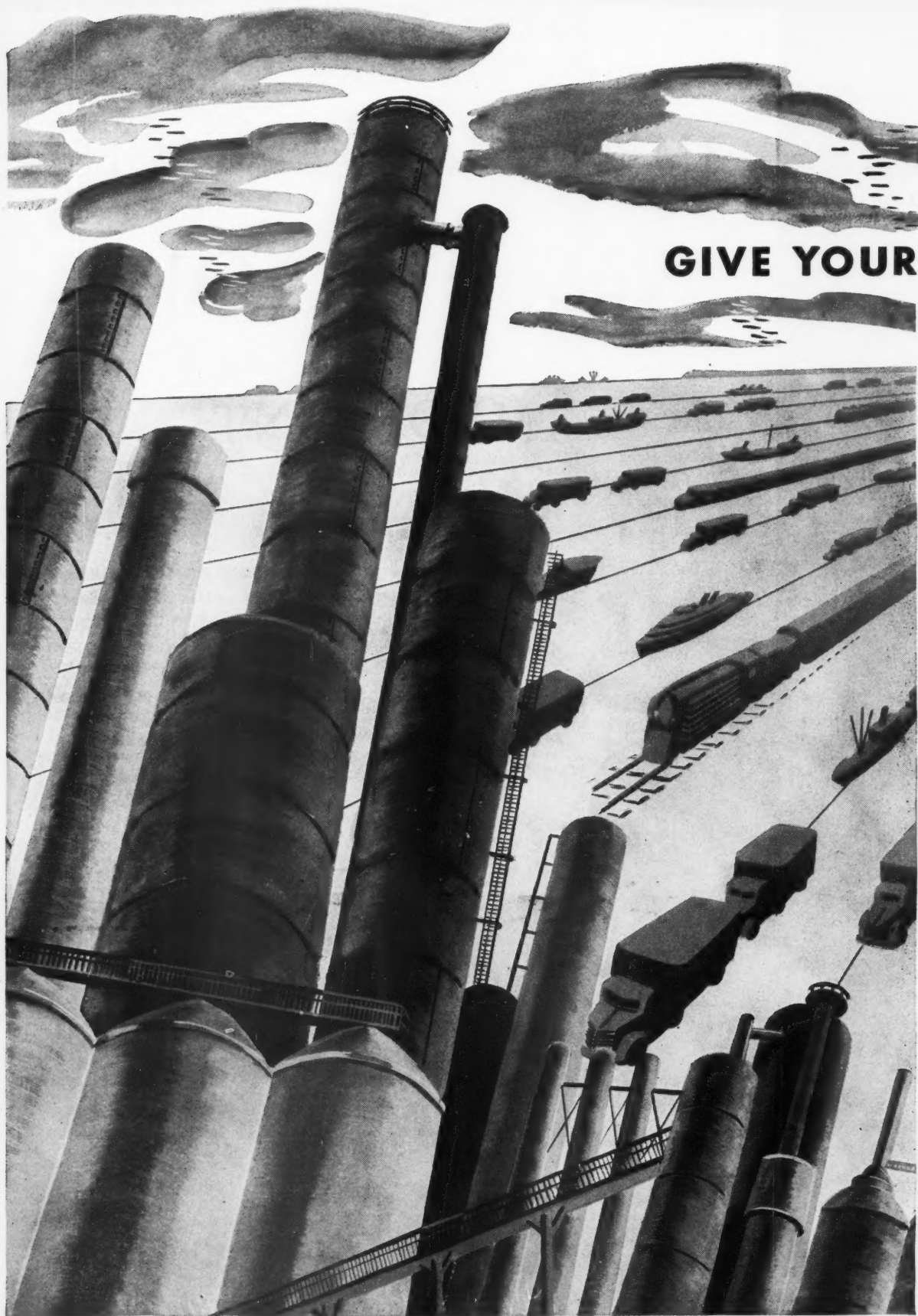
FINE FLAX AIR MAIL

FLAX-OPAQUE BIBLE AND PRINTING PAPERS

BOXED TYPEWRITER PAPERS

Ecusta Paper Corporation

PISGAH FOREST, NORTH CAROLINA



GIVE YOUR



PRODUCTION A **fast start**

It's only in fable that the tortoise wins! And you, as an experienced businessman, know the advantage of a *fast start* in today's race for tomorrow's markets.

If you are thinking of *expanding* your production, *modernizing* your facilities, *adding* a new process, *relocating* your business or starting a *new* enterprise—look to the War Assets Administration *first* for help in getting that vital headstart.

The War Assets Administration has hundreds of ready-built plants for sale or lease . . . Plants that ran magnificently to win a war, and are in prime condition for peacetime running . . . Plants large and small . . . Plants you may take over fully equipped—or without machinery . . . Plants you may buy or rent as a whole, or occupy in part under a multiple tenancy arrangement.

Right now, when restrictions and material shortages make it so hard for you to build the business home you need, one of these immediately available surplus plants will help you solve that problem.

If you can qualify as a "small business", you will find that a *high priority* is available for your purchase of a plant through the Reconstruction Finance Corporation. Our regional offices will advise you how to obtain this priority certification. Get in touch with the nearest War Assets Administration office listed below.

Write, phone or call for the **PLANT-FINDER**, a fully indexed, descriptive catalog of Government-owned plants.



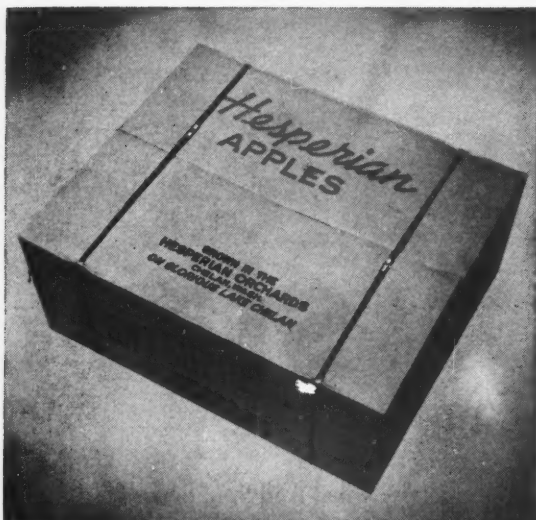
WAR ASSETS ADMINISTRATION

OFFICE OF REAL PROPERTY DISPOSAL

Offices located at: ATLANTA • BIRMINGHAM • BOSTON • CHARLOTTE • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT • FORT DOUGLAS, UTAH • HELENA • HOUSTON • JACKSONVILLE • KANSAS CITY, MO. • LITTLE ROCK • LOS ANGELES • LOUISVILLE • MINNEAPOLIS • NASHVILLE • NEW ORLEANS • NEW YORK • OMAHA • PHILADELPHIA • PORTLAND, ORE. • RICHMOND • ST. LOUIS • SAN ANTONIO • SAN FRANCISCO • SEATTLE • SPOKANE • TULSA



181-5



Perishables . . . Steelstrapped to prevent damage and pilferage.

Doc. Steelstrap



● Natural shipping hazards do not permit gentle handling of cargoes. But Acme Steelstrap protects your products from damage in transit — is security, too, against pilferage. Call in Acme to prevent shipping damage claims and pilferage losses.

Bound to get there —
WITH ACME STEELSTRAP

2816 ARCHER AVENUE, CHICAGO 8, ILLINOIS

ACME STEEL COMPANY

ACME STEEL CO.
CHICAGO

4. Buffalo and Rochester Region

Barometer gain over November 1945 even with U. S., gain from October considerably higher than U. S. average. Wholesale trade moderately above a year ago. Rochester factory employment and payrolls up 17 and 14%. Rochester newspaper strike effected retail outlets and amusements.

5. Northern New Jersey Region

Barometer gain over a year ago under U. S. increase, second largest gain from October. Wholesale trade well above a year ago. Elizabeth factory employment 21% above a year ago, payrolls up 5%.

6. Philadelphia Region

Barometer gain above a year ago about even with U. S. gain, slight increase from October. Wholesale volume considerably above a year ago. Factory employment and payroll increases well over a year ago. Retail clearances numerous.

7. Pittsburgh Region

Barometer gain over a year ago above U. S. gain, moderate increase over October. Wholesale trade well above a year ago. Employment and payroll increases over a year ago considerable. Production returned to high levels.

8. Cleveland Region

Barometer increase over a year ago moderately above U. S. gain, small rise in month. Wholesale trade considerably above a year ago. Cleveland employment moderately above a year ago; up slightly from October. Cleveland steel production averaged 90% of capacity.

9. Cincinnati and Columbus Region

Barometer gain over a year ago moderately above U. S. gain, slightly higher in month. Wholesale trade considerably above a year ago. Employment continues to rise in area.

10. Indianapolis and Louisville Region

Barometer gain over November 1945 slightly larger than U. S. average, small gain over October. Wholesale trade considerably over a year ago. Employment increased slightly. Stripping and marketing of tobacco heavy in Kentucky.

11. Chicago Region

Barometer gain over a year ago even with U. S. gain, large increase from October. Wholesale trade well above a year ago. Employment up and payrolls at peak levels. New furniture plants started in Rockford increasing employment.

12. Detroit Region

Barometer gain over November 1945 well above U. S. average, slight increase from October. Wholesale trade considerably above a year ago. Factory employment and payrolls increase considerably above a year ago.

13. Milwaukee Region

Barometer gain from a year ago slightly above U. S. average, considerably above October. Wholesale trade well above a year ago. Factory employment and payroll changes from November 1945 moderate. Winter grains amply protected.

14. Minneapolis and St. Paul Region

Barometer gain over a year ago well above U. S. average. Wholesale trade considerably above a year ago. Billings cattle receipts at record high in mid-November.

15. Iowa and Nebraska Region

Barometer gain over November 1945 above U. S. gain, almost unchanged from October. Wholesale trade was well above a year ago. Output and employment gain moderately; packing plants active.

16. St. Louis Region

Barometer gain over November 1945 above U. S. gain, well above October. Wholesale trade 25% above a year ago. Factory employment in St. Louis increased considerably; livestock slaughtered rose to highest level since November 1944.



The Case of the 3 Million Dollar Charge Account

SKYROCKETING sales can sometimes present a problem.

Hearn Department Stores, in New York, found this out in 1938, when installment sales hit a new high of \$3,000,000. The Company felt that the time had come for a more efficient plan of credit financing to handle its increasing volume. Specifically, it wanted to eliminate the practice of short-term borrowing to finance long-term sales.

The officers of the Company came to the Bank of Manhattan and explained their problem. The Bank went to work and designed a custom-made solution.

It took over all of Hearn's installment contracts. As sales expanded, the Bank's credits expanded. As sales contracted, the Bank's credits contracted. Thus Hearn had to pay for no more financing than it actually needed.

The plan called for versatile service from the Bank of Manhattan.

Through its own Credit Department, the Bank made a careful check of Hearn's customers' credit. In peak seasons when installment sales increased by the thousands, Hearn could depend on the Bank to service these accounts and thus avoid the expense of enlarging its own staff.

And when the Company introduced coupon books in 1940, to facilitate in-

stallment purchases of low-cost items, the Bank financed these credits, too. The number of small accounts increased tremendously. And all were serviced by the Bank without impairing customer-store relations.

Helping solve business problems, such as this one, is an old story at the Bank of Manhattan. And the solution is almost always *custom-made*. For this Bank specializes in assisting customers not only with financial aid, but with *imaginative* business counsel as well.



Bank of the
Manhattan Company

NEW YORK

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



So you noticed there is *such* a difference in calculators.

Yes, that's exactly what I told the boss... order a Friden

for me, with all its exclusive *fully automatic* features.

The thing that really surprised me was how *easy* they are to operate... after less than *15 minutes instruction*

I was able to breeze thru my figure problems. If you like my Friden, ask the boss to order one for you **NOW**.

New cars are not immediately available... but Fridens are worth waiting for, too! Just have him telephone the local Friden Representative... today."

Friden Mechanical and Instructional Service is available in approximately 250 Company Controlled Sales Agencies throughout the United States and Canada.

FRIDEN

FRIDEN CALCULATING MACHINE CO., INC.

HOME OFFICE AND PLANT - SAN LEANDRO, CALIFORNIA, U.S.A. - SALES AND SERVICE THROUGHOUT THE WORLD

17. Kansas City Region

Barometer increase over a year ago below U. S. average, small rise in month. Wholesale trade moderately above a year ago. Oklahoma industrial production declined from a year ago. Cotton crops mostly harvested; 1946 crop 9% below a year ago.

18. Maryland and Virginia Region

Barometer gain over a year ago well below U. S. average, large increase over October. Wholesale trade well above a year ago. Labor surplus exists in the Norfolk area.

19. North and South Carolina Region

Barometer gain over a year ago even with U. S. gain, slight rise over October. Wholesale trade well above a year ago. Employment continued upward. Textile mills production high. Retail volume moderately above a year ago.

20. Atlanta and Birmingham Region

Barometer gain over a year ago almost even with U. S. increase, down slightly in month. Wholesale trade well above a year ago. Cotton consumption in textile mills highest in four years. Production at a high level, employment steady.

21. Florida Region

Barometer increase over a year ago below U. S. gain, slight increase from October. Wholesale trade considerably above a year ago. Employment increased. Reservations off from recent Winter peaks. Strawberry crop excellent.

22. Memphis Region

Barometer increase over a year ago less than U. S. gain, moderate decline from October. Wholesale trade moderately above a year ago. Arkansas employment up slightly from October. Labor surplus sizeable in Memphis.

23. New Orleans Region

Barometer gain over November 1945 well above U. S. gain, largest from previous month of 29 regions. Wholesale trade moderately above a year ago. Louisiana employment at highest level this year. Agricultural conditions favorable.

24. Texas Region

Barometer gain from a year ago slightly higher than U. S. average, small increase over October. Wholesale trade moderately above a year ago. Texas employment 4% above a year and month ago; payrolls up 7 and 3%.

25. Denver Region

Barometer gain over a year ago well above U. S. gain, down slightly in month. Wholesale trade considerably above a year ago. Colorado employment 10% above a year ago and 2% above October; New Mexico up 21% and down 0.4%.

26. Salt Lake City Region

Barometer gain over a year ago below U. S. increase, slight decline in month. Wholesale trade substantially above a year ago. Employment rose moderately above a year ago. Potato crop large and bringing good prices.

27. Portland and Seattle Region

Barometer increase above a year ago and a month ago below U. S. average. Wholesale trade moderately above a year ago. Washington manufacturing employment 2% below a year ago. Lumber production steady with heavy demand.

28. San Francisco Region

Barometer gain over a year ago below U. S. gain, slight increase from October. Wholesale trade considerably above a year ago. San Francisco Bay area factory employment increased 39% above November 1945. Excellent crop yield.

29. Los Angeles Region

Barometer gain over a year ago well below U. S. gain, slight gain over October. Wholesale trade well above a year ago. Los Angeles area factory employment 7% above a year ago, payrolls up 18%. Winter vegetables doing well. Citrus crop sizing well, but sugar content low.

PORTUGAL CALLING

The undermentioned Trade Representatives and Traders in Portugal
are interested in establishing business relations WITH YOU

To communicate with companies listed below address P. O. Box number indicated by (B xxx) in the city shown. (This is a paid advertisement. To participate, address: R. G. DUN & Co., Lisbon, Portugal.)

LISBON (Portugal)

AGENCIA COMERCIAL & MARTIMA, LDA., Rua do Alecrim, 45. Tel. Add.: Acomar. Shipping, commercial, agents.
 ARMAS REUNIDOS, LDA. (B 580). Importers hunting, fishing, sport goods, paper, office appliances.
 AUTO CARROCERIAS, LDA. (B 406). Importers of materials for construction of automobile and bus bodies.
 AUTO-GERAL V. GARCIA, LDA. (B 499). Tel. Add.: Garçiviana. Agents and importers of automobile spare parts.
 A. WUNDERLI (B 688). Import, export agent, Port Wine dealer. Sales agents required.
 CANTINHOS & MARQUES, LDA. (B 159). Manufacturers, exporters corks, corkwood, corkwaste and virgincork.
 CARLOS GOMES & CA., LDA. (B 658). Tel. Add.: Vante. Ship brokers, forwarding agents, stevedores. Chartering.
 EMPREZA TECNICA & ADMINISTRACOES, LDA., R. Nova Trindade, 1. Import metals, chemicals, machinery, scientific equipment.
 ESTABELECIMENTOS ALVES DINIZ & CA. (B 343). Tel. Add.: Aldiniz. Foodstuff importers and exporters.
 EST. JERONIMO MARTINS & FILHO, LDA., R. Garrett, 23. Importers groceries, chemicals, stationery, perfumes, etc.
 FERNANDES & PINTO, LDA., R. Maria Andrade. Import anilines, pigments, essential oils, raw materials for tanning, perfumery and textile.
 FERNANDO CASTEL-BRANCO, Ave. João Crisostomo, 25. Import and export. Philatelic department.
 FRANCISCO BENITO & CA., LDA. Export olive oil, fresh and dried fruit, olives, garlic, paprika, Guinea pepper, etc.
 HENRY M. F. HATHERLY, LDA., Rua Comercio, 8. Tel. Add.: Ergo. Merchants, agents, import and export ergot rye, saffron, medicinal-aromatic herbs, brandies, wines.
 INSTITUTO PASTEUR DE LISBOA (B 378). Mfrs., import, export pharmaceutical, chemicals, surgery material, etc.
 J. LAVADO & CA., LDA. (B 590). Sales agents, export preserves, Colonial, cork; import raw materials, chemicals.
 JOHN W. NOLTE, LDA. (B 92). Exporters of cork, sardines; importers, agents iron, steel, non-ferrous metals.
 J. PACHECO CALÉ, LDA., Rua S. Julião, 80, 3°. Tel. Add.: Calel. General agents.
 J. VASCONCELOS, LDA., Praça Duque da Terceira, 24. Lisbon. R. Infante D. Henrique, 73. Oporto. Ship, chartering agents.
 MANUEL DE OLIVEIRA GOMES, Restauradores, 13. Import and export wool, dyes, electrical and household utensils.
 MANUEL PATRONE (B 622). Importer of raw materials and machinery for rubber, shoe and glove industry.
 MANUEL VENTURA FRADE (B 226). Packer, exporter, sardines, Algarve-tunny, mackerel, anchovies in pure olive oil.
 MARIO SILVA, Rua das Flores, 81. Shipping agent, import and export.
 MARMORES DE SOUSA BAPTISTA, LDA., Praça do Município, 30. Exporters of marbles.
 RADIO INDUSTRIAS, LDA., Rua da Madalena, 85. Tel. Add.: Radustrias. Import radios, photographic commodities.
 RODRIQUES & REIS, LDA., Rossio, 93, 2°. Commission agents and merchants. Desire foodstuff and other agencies.
 SANO TECNICA, LDA., R. Nova Alameda, 61. Surgical instruments, laboratory apparatus, furniture, reagents, etc.
 SOC. COMERCIAL LUSO-AMERICANA, LDA., Rua Prata, 145. Import-export stationery, office equipment, all novelties.
 SOC. COM. POLLERI, LDA., Rua Andrade, 63. Import all industrial requirements. Manufacturers' representatives.
 SOCIEDADE LUSO-BRITANICA, LDA., Rua Corpo Santo, 10. Tel. Add.: Diasal. General agents.
 SOCIEDADE LUSO-SUECA, LDA. (B 146). Tel. Add.: Luzul. Seeks factory representations. Knitting machines; industrial sewing; machines for tailors, and shirt makers.

SOCIEDADE DE VINHOS & MOSTOS, LDA. (B 563). Tel. Add.: Vimosto. Exporters of Portuguese wines and brandies.
 WALTER STOCK (B 7). Importer general and consumers goods of all kinds. Exporter and packer of sardines in oil.

MATOZINHOS (Portugal)

ANT. & HENR. SERRANO, LDA. Tel. Add.: Dragão. Packers and exporters of sardines and anchovies in pure olive oil.
 BRANDAO & CA., LDA. Tel. Add.: Varina. Canned foods and olive oil. Manufacturers and exporters.
 CONSERVAS PRADO, LDA. (B 27). Tel. Add.: Prado. Packer, exporter, canned fish, boneless, skinless sardines.
 DIAS, ARAUJO & CA., LDA. (B 15). Sardines, anchovies and all kinds of canned fish. Packers and exporters.
 JOSE RODRIGUES SERRANO & F., LDA. (B 8). Tel. Add.: Ressano. Packers and exporters of sardines. Principal brands: Serrano, Boa Nova, Ideal, Alta Classe, Orgueil.
 LAGE, FERREIRA & CA., LDA. Packers and exporters of anchovies and skinless and boneless preserved sardines.
 SOCIEDADE DE CONSERVAS JOANA D'ARC, LDA. (B 16). Tel. Add.: Joarc. Packer, exporter fish preserves.

OPORTO (Portugal)

A. C. PIMENTA, LDA., Rua Sá Bandeira, 283. Cotton agents. Interested in agencies for artificial silk yarns and textiles in general. Also electric home appliances.
 AUMAFECA, Rua Entreparedes, 16, sala 15. General agent for own account. Import and export.
 BANCO BORGES & IRMAO (B 33). Tel. Add.: Borgimao. Branches in Lisbon and main towns. All banking services.
 BENTO PEIXOTO & LOPES, LDA., Rua Mousinho Silveira, 81. Import iron, steel, tinplate, tools, ironmongers.
 DROGARIA MOURA, LDA., Largo S. Domingos, 101. Import industrial chemicals, pharmaceuticals, drugs, paints.
 E. BRUNNER & CA., LDA. (B 112). Import dyestuffs, chemicals, patent medicines, plastics, rayon, textile machines.
 ESPECIALIDADES ELECTRICAS, LDA., Rua Fernandes Tomaz, 710. Insulating; machines, domestic appliances.
 J. GUIMARAES & FERREIRA, LDA., R. José Falcão, 171. Imp., tobacco, stationery, hardware, novelties, electrical.
 J. ROCHA, LDA., R. Passos Manuel, 166. Importers of radios, refrigerators, electric ovens and medical electricity.
 LEMOS & FILHOS, LDA., Praça Carlos Alberto. Import pharmaceutical specialties, perfumes, beauty preparations.
 LIVRARIA SIMOES LOPES, Rua do Almada. Est. 1880. Books, editors, importers; export stationery, office supplies.
 MANUEL FREDERICO, Rua S. Antonio, 57, 1°. Seeks agency Portugal, Portuguese Africa general merchandise.
 REPRESENTACOES ANGLO-AMERICANAS, LDA., R. José Falcão, 133. Fluorescent, electrical home appliances.
 REPRESENTACOES ANGLO-LUSITANAS, LDA., Praça da Batalha, 90. Tel. Add.: Ralim. Building, chemical products.
 SOCIEDADE IMPERIO COLONIAL, LDA. Head Office: R. José Falcão, 171. Africa import and export.
 TASSO DE SOUSA, MAGALHAES & CA., LDA., R. Firmeza, 476. Motor cars, accessories. Sales agents and importers.
 UNIVERSAL, SOCIEDADE ACOS MAQUINAS & FERRAMENTAS, LDA., Rua Sá Bandeira, 534. Imp. machines, tools for industries.

VILA NOVA DE GAIA (Portugal)

MIGUEL DE SOUZA GUEDES & IRMAO, LDA. Est. 1851. Proprietors Alto Douro. Exp. Port Wine, brandy.
 SPIR. SOC. PORT. I. & REPRESENTACOES, LDA. Importers iron, steel, wire, tubes, small tools, machinery.

Revolutionary new system speeds office dictation!

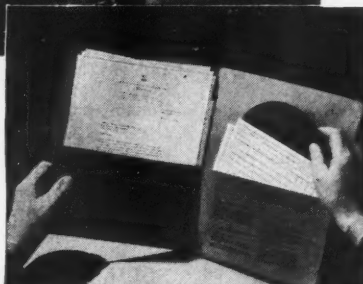


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ECONOMIC LIFE

(Continued from page 15)

come the excuse for increasing incentive-destroying taxes. The spiral becomes self-stimulating.

The fact that printing money adds money to markets but not goods to match it means that the money is more of a tax receipt for goods taken away than it is a command over goods to be had. Subsequent spenders of the money find this out in two ways: By price control and rationing they find themselves with money left over which they can't spend to buy what they want. Money you can't spend is relatively worthless. Or in the absence of those controls, the prices go up and each dollar buys less. There is no reliable way that printed money, once issued, can ever be redeemed in goods equivalent to those taken when it was issued. Printing of money is not the creation of purchasing power. It is, instead, the cruelest and most deceptive form of taxation with the longest lasting evil aftermaths. The burden always falls most heavily upon those with pensions, bequests, or otherwise fixed income, and often least able to bear the burden.

There is one final, truly vicious aspect of printing press money that should be noted. When the money enters the market, the market responds. It shifts capital, manpower, and materials towards greater production of the particular goods taken. The market does not know the demand is false. The demand is not the expression of competitive expenditure by those whose income derives from producing for each other what they want most in exchange. The demand is, instead, the result of someone getting something for nothing without having to measure his getting with giving of goods competitively acceptable in markets.

Production is diverted to synthetic demand instead of being governed by exchange for equivalent values. In short, the boom financed by inflating the money is the relative wastage of scarce manpower, capital, and resources. In war-time, this is readily apparent: printed money is exchanged for goods which are then destroyed under compulsion. In peace-time, the process is similar though less readily apparent.



How Many Sales Were Lost at Home?

Salesmen with domestic problems often lose out on the firing line. Others work harder to forget their troubles. It is essential to uncover a salesman's reaction to such emotional disturbances before you encounter the sizeable expense of hiring—and training—the *wrong* man. Yet, few sales applicants will truly reveal their personal troubles to you in an interview!

Klein Sales Aptitude Test Procedures are designed to reveal more than problems of domestic behavior. They uncover the traits—emotional stability, tact, self-confidence, dominance, self-sufficiency, mental capacity, mental objectivity—that lie hidden within every sales applicant. Klein Institute reveals to you which applicants possess the ability to cope with turn-downs . . . the capacity for hard work necessary to develop top producers for you.

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tion to normal selection methods by outstanding organizations in all the basic industries. Klein Procedures do not take the place of interviews, credit and reference checks or past experience. They provide management a positive *additional* verification of a salesman's potentialities.

Klein Sales Aptitude Test Procedures require no supervision. The applicant fills in the tests and returns them to you. You mail them to Klein Institute. We will return a complete, comprehensive—confidential—report as to whether to employ or not. Additionally, you will find the report a valuable assistance in handling those applicants you do hire.

Our extensive experience has covered every type of industrial selling. A request on your letterhead will bring complete information regarding the application of Klein Sales Aptitude Tests in organizations similar to yours.

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But buying with printed money must eventually end. It ends either when check deposit expansion reaches the limit under the gold standard, if we have a gold standard, or when the Federal Reserve Board otherwise decides to call a halt, or eventually when so much money is printed that it becomes substantially unacceptable as a medium of exchange. When it ends the maladjustment between production and demand is exposed. Unwanted production accumulates in inventories, liquidation sets in, and spirals of recession are inaugurated. That is why bust follows boom.

The starting of a boom by printing press techniques is the guarantee of the bust to follow. We had a taste of that in the "we planned it that way" boom of 1936 and the bust in 1937. We shall, I fear, have bigger and better examples in the days to come unless more people learn that government monkeying with money is playing with dynamite which on explosion can extinguish the voluntary society.

Monopoly

I come now to the monopoly road to state-ism. There is one type of monopoly that is currently a serious threat—it is labor monopoly. The laborer is not a commodity, but the service he renders cannot escape economic law. That means quite simply that if the service is made artificially costly, then just like anything else, customers will buy less of it than otherwise. Labor, like anything else, can price itself out of its market, if given monopoly status. It has achieved monopoly status. In actual practice this means that in determining the price paid for labor—the wage rate—many employers are permitted to deal with but one entity, subjected to neither individual nor group competition.

This is monopoly obscured but monopoly price control nonetheless. It is tantamount to saying to each person that the price they must pay for bread from whomever purchased is nevertheless to be set by one baker, no other being permitted to offer a lesser price in the hope of getting their business. It is the exercise of great power, and like all power it tends to feed upon itself and to be abused to the injury of the innocent.

The same is true in labor. The only

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Condensed Statement of Condition as of December 31, 1946

Including Domestic and Foreign Branches But Not Including The Affiliated City Bank Farmers Trust Company

(In Dollars Only—Cents Omitted)

ASSETS

Cash and Due from Banks and Bankers.....	\$1,296,000,976
United States Government Obligations (Direct or Fully Guaranteed)	2,188,205,130
Obligations of Other Federal Agencies	35,353,712
State and Municipal Securities	186,734,856
Other Securities	101,029,479
Loans, Discounts, and Bankers' Acceptances... ..	1,093,944,555
Real Estate Loans and Securities	3,346,134
Customers' Liability for Acceptances	12,759,386
Stock in Federal Reserve Bank	6,900,000
Ownership of International Banking Corporation	7,000,000
Bank Premises	29,280,431
Items in Transit with Branches	15,021,205
Other Assets	2,159,803
Total	\$4,977,735,667

LIABILITIES

Deposits	\$4,664,102,604
(Includes United States War Loan Deposit \$98,257,569)	
Liability on Acceptances and Bills	\$15,975,382
Less: Own Acceptances in Portfolio	2,193,999
	13,781,383
Reserves for:	
Unearned Discount and Other Unearned Income	4,147,064
Interest, Taxes, Other Accrued Expenses, etc.	31,520,002
Dividend	4,650,000
Capital	\$77,500,000
Surplus	152,500,000
Undivided Profits	29,534,614
Total	\$4,977,735,667

Figures of Foreign Branches are included as of December 23, 1946, except those of the Dairen Branch which are prior to the outbreak of the War, but less reserves.

\$376,317,672 of United States Government Obligations and \$1,712,449 of other assets are deposited to secure \$318,115,058 of Public and Trust Deposits and for other purposes required or permitted by law.

(Member Federal Deposit Insurance Corporation)

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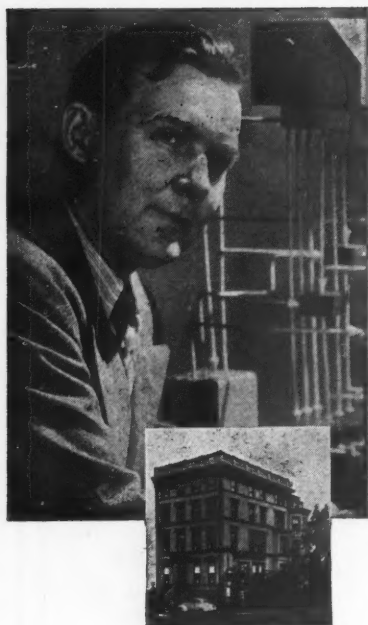
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We are in the business of making complicated things easy to understand. We teach calculus without using the ugly word. We make sewage treatment plants sound exciting, and the intricacies of resistance welding crystal clear. We do this with words and pictures, and a lot of techniques we learned from the U.S. Navy.

Ours is an organization of 100 people—scientists, engineers, artists, writers and photographers. We define our services as Public Relations and Technical Sales Promotion. Some of our clients call this an entirely new business. All agree that it stimulates sales.

In the past year we have worked for Western Electric Company, General Electric Company, Bell Telephone Laboratories, American Telephone and Telegraph Company, American Gas Association, National Radio Institute, Standard Oil Company of New Jersey, Portable Products Corporation, and the Ford Instrument Company. If it is difficult to make *your* customers understand *your* products and services, we would like to work for *you*.

**PHILIP E.
WILCOX, INC.**
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and everlasting protection of the worker's independence and economic freedom is the presence of competing buyers for his service, that is, competing employers, just as competing sellers are his protection when he spends his wage as a buyer. As workers form monopoly groups against particular employers, they may be shutting off each employer from other sources of supply to the monopoly group's own seeming benefit; but by that very act they are also shutting off other workers from access to these employers. Thus, step-by-step, the workers are shutting each other out and so losing the very roots of their independence. They become the prisoners of the monopolies they create.

As labor monopolies employ their coercive power to obtain above market-price wages, then some of the workers are priced out of jobs and find themselves with nowhere to go—except to charity. They are shut out from other employment by reason either of the same over-pricing elsewhere that is responsible for their own disemployment, or by the presence of seniority and other rules designed to protect these monopolies against worker competition. Such monopolies operate most brutally against competition of the non-working with those working. They tend to create unemployment and render it chronic.

Wage Cost Rigidity

With this understood, the nature of monopoly as one of the great roads to state-ism becomes readily apparent. Thus, when recession comes these monopolies will certainly strive with all their power to maintain existing wages. Wage cost is at least three-quarters of all costs. This cost rigidity will hamper and hinder the realignment of employment and production to meet the changing pattern of demand as the war-born shortages are made good. It will act as a destroyer of the profit incentive to create new jobs. It means that we may have to take our licking in pronounced and prolonged unemployment instead of in swift-moving, flexible price, profit, and wage adjustments that will keep most people working most of the time. That, in turn, permits those who wish to do so, however untruthfully, to scream out that private enterprise has failed, and that

(Continued on page 56)

VALUABLE ADVICE— AT LOW COST

In 1947, Management will face a number of new problems, or old problems with new complexities.

The management engineer brings to the aid of management, specialized knowledge and wide experience, and, when required, facilities for conducting business research projects.

The problems on which management engineers are engaged include practically all departments of business; production, marketing, finance, employee relations, etc.

Even if you have no problem, at the moment, on which you are seeking aid, you may have later, and we hope you will send for and read our booklet, "A Quarter Century of Service to American Business." In this booklet we explain the character and scope of management engineering services, and briefly our own history, facilities, and a list of concerns typical of those who have found our services profitable.

No obligation, just write on your letterhead—"You may send your booklet."

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Company, Inc.

Pictures of Distinction

UNIVERSAL PICTURES COMPANY is now devoting its creative and technical resources to the production of pictures of outstanding distinction. The production of so-called "B" pictures, Westerns and serials has been eliminated.

It is our belief that the trend among the millions of moviegoers both in America and in countries overseas is toward increasing selectivity in their choice of screen entertainment.

Implementing this new production policy, Universal Pictures has acquired the entire assets of International Pictures Corporation, and the production organizations of the two companies have been merged. This combination of creative and technical talent, story properties and star contracts gives Universal one of the strongest production organizations in the motion picture industry.

William Goetz and Leo Spitz, outstanding producers, who headed International Pictures, have been placed in full charge of Universal's production activities at the studio. The company's productions now carry the trade mark of Universal-International Pictures.

In addition to 25 pictures of distinction being produced at its own studio, Universal Pictures has arranged for the exclusive distribution in this country and in Central and South America of British pictures produced by the J. Arthur Rank Organization, with the exception of 2 to be handled by another company and 5 to be distributed annually by Eagle-Lion.

For Your Entertainment

UNIVERSAL-INTERNATIONAL Presents:

The Egg and I—from Betty MacDonald's Best-Seller; Claudette Colbert and Fred MacMurray.

Time Out of Mind—from Rachel Field's novel —Phyllis Calvert, Robert Hutton, Ella Raines.

Song of Scheherazade—Yvonne De Carlo, Brian Donlevy, Jean Pierre Aumont—in Technicolor.

Ivy—starring Joan Fontaine, Patric Knowles, Herbert Marshall and Richard Ney.

I'll Be Yours—Deanna Durbin, Tom Drake, William Bendix and Adolphe Menjou.

Portrait in Black—starring Joan Crawford.

Smash-Up—The Story of a Woman—Susan Hayward, Lee Bowman, Marsha Hunt, Eddie Albert.

Swell Guy—Sonny Tufts and Ann Blyth.

The Exile—starring Douglas Fairbanks, Jr.

Slave Girl—in Technicolor, starring Yvonne De Carlo and George Brent.

Buck Privates Come Home—Abbott and Costello.

Pirates of Monterey—in Technicolor, starring Maria Montez and Rod Cameron.

The J. Arthur Rank pictures shown here have been very favorably received. Critics and the public have been quick to recognize the outstanding quality of "Stairway to Heaven," "Henry V," "Caesar and Cleopatra," "Seventh Veil" and "Brief Encounter," to mention only a few. Box office results indicate that these British pictures offer a type of entertainment the American public wants to see. And as the British stars become more widely known here, there will be even greater interest in their forthcoming pictures.

U. S. MARKET FOR BRITISH FILMS

These arrangements to distribute British pictures in this country mark the beginning of an earnest effort to provide the British film industry with an opportunity to add materially to the world-wide earnings of their pictures. It is our opinion that their pictures should have the same opportunity to earn revenues in this country as our pictures have in Britain.

This agreement presages a new era of co-operation in the motion picture industry. It not only provides the opportunity for the American public to see the best British product but paves the way for the exchange of acting, writing and directorial talent between United States and Great Britain.

ENTER 16MM.—8MM. BUSINESS

Marking the entrance into an important new field, Universal Pictures has organized a new subsidiary, United World Films, Inc., to produce and distribute 16mm. and 8mm. entertainment, educational, religious and newsreel films. This subsidiary has purchased the assets of Castle Films, Inc., a leading producer-distributor of 16mm. and 8mm. films, and also the film library and distributing set-up of Bell & Howell Co.

FINANCIAL PROGRESS

Net profit for the fiscal year ended Nov. 2, 1946, was \$4,565,219, equivalent to \$5.32 per share on 827,119 shares of common stock outstanding at the end of the fiscal year, after providing for dividends on the 4¼% preferred stock. This compared with \$3,910,928, or \$4.86 per share, a year ago.

The cost of selling and distributing motion pictures is likely to be increased as the result of a recent court ruling requiring changes in the industry's marketing methods. This was one of the factors that led the Universal management to adopt its new policy of producing only pictures of distinction. Naturally, however, it will take a reasonable period of time for these new production and distribution policies to become completely effective and reflect themselves in the company's over-all operations.

Characteristics of the

MOTION PICTURE INDUSTRY

It is surprising how few people seem to have any real understanding of how the motion picture industry operates as a business.

Few seem to realize that beneath the industry's Hollywood glamour there is a great basic stability.

The industry has an established market of over 90,000,000 paying customers a week in this country alone and upwards of 200,000,000 a week throughout the world.

It is a strictly cash business—one of the largest cash businesses in the world.

It had a cash income of over \$1,500,000,000 in this country alone last year. World revenues were over \$2,000,000,000.

It is one of America's great export industries. It is one of the few American industries whose product sells in every country in the world.

It is the No. 1 salesman of American goods throughout the world.

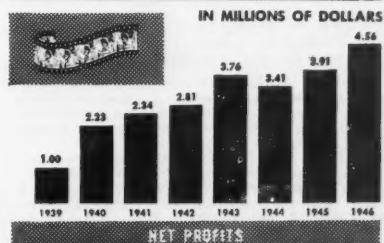
It is a relatively young industry. It has initiative and is aggressive.

It is an industry with tremendous long-term growth prospects.

It is one of the last industries to feel the effects of a depression. During hard times, going to the movies is one of the last things people care to give up.

When general business starts to pick up, the motion picture industry is among the very first to respond. Few industries enjoy such a high degree of resiliency.

Although the motion picture industry is often thought of as highly speculative, actually it has as many factors making for basic stability as any other leading industry, and more than most.



PROGRAM FOR CURRENT SEASON

Universal's line-up of current and coming productions will be the strongest in its history. Under the new Universal-International banner, top ranking stars are appearing in productions with outstanding story values, including best-selling novels and Broadway stage successes. These pictures are being directed and supervised by directors and producers who have to their credit some of the most successful pictures turned out in Hollywood.

J. CHEEVER COWDIN, Chairman
N. J. BLUMBERG, President

A copy of the Annual Report will be furnished on request to Universal Pictures Company, Inc., Rockefeller Center, New York 20, N. Y.

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AFRIMERIC DISTRIBUTORS PTY. LTD., 133 Longmarket St. Manufacturers' representative. Textiles, softs, fancy goods, hardware. Paper board and timber. Branches throughout Union. Also Belgian Congo and Rhodesia.

J. BOCK & SON (B 2038). Branches Johannesburg, Durban, Port Elizabeth, Bulawayo. Textiles and underwear every description. Leather and findings for footwear industry, plastics, electrical.

CHUTE, ROWLAND & CO. LTD. (B 693). Plastics, nylon stockings, textiles, glass, aluminum, electrical goods, tools, timber, oak staves, raw materials, foodstuffs.

DENT & GOODWIN CAPE PTY. LTD. (B 1446). Customs clearing and shipping agents.

DE VILLIERS A. I. & CO. (B 2933). Branch office Johannesburg. Direct importers agricultural insecticides, fertilizers and packing material. Seed potatoes and apples. Established connections throughout the entire Union.

DUNAY G. F. (B 892). Manufacturers' representative and distributor, sales organization covers Southern Africa. Engineering supplies, material and machinery; all requirements for building and allied trades; general hardware; industrial chemicals and adhesives; sundry supplies of motor trade and garage equipment; oilskins, rubber goods, plastics; cream, oil, and industrial separators.

P. ANDERSON GREIG (B 3189). Domestic hardware, hand tools, furnishing fabrics. Imitation jewelry. Novelties. Pens and pencils.

HUDSON (Import Division) PTY. LTD. (B 1318). Complete national coverage; ample finance; own warehouses; stockist distributors, not commission agents or jobbers; correspondence invited.

INDUSTRIAL SUPPLY CO. PTY. LTD. (B 279). Chemicals and ingredients for food and drink.

INTERCOM AGENCIES PTY. LTD. (B 1587). Manufacturers' representatives, organized to attend to international commerce as import and export agents.

KAY'S AGENCIES, 55 Hout St. Manufacturers' representative cotton piece goods all descriptions, towels. Other soft goods.

KEENE & CO. PTY. LTD. Head office: Box 2305, Cape Town. Branches: Johannesburg, Durban and Port Elizabeth. Agent at Lourenco Marques. Interested in all commodities suitable for the wholesale and retail distributive trade. Specialized departmental representation.

H. M. LEERS & CO. PROP. LTD. (B 2982). General merchants and importers. **M. LEWIS & CO. AND BRANCHES FURNISHERS CAPE TOWN.** Soft furnishings; curtaining, carpets, linos, crockery, etc.

NATIONAL AGENCIES (SOUTH AFRICA) PTY. LTD., 88 Church St. Cape Town head office. Agent and wholesale distributors druggists sundries. Depot stocks carried all leading centers South Africa and Rhodesia. Cable: "Hyruv."

PRESTON AGENCY CO. PTY. LTD. (B 2247). Throughout South Africa. Foodstuffs, electrical accessories, textiles.

L. F. RAE & SON (B 442). Manufacturers' representatives foodstuffs, builders, household and electrical hardware, tools, plastics, chemicals.

GEO. RAYMOND & SON (B 2404). Ladies' showroom goods; men's hosiery; ladies' underwear, corsetry, infants' wear, haberdashery.

M. A. SEELIGSOHN (B 2892). Manufacturers' representative household commodities, hardware, textiles, etc.

SMIEDT & IPP (B 470). Textiles, foodstuffs, electrical. All types merchandise represented throughout Union and South West Africa.

SWINGLER BROTHERS PTY. LTD. (B 3371). Also Johannesburg. Engineering. Hardware. Automotive products. Builders' material.

UNITED AGENCIES (B 1568). South Africa's leading agents children wear, desire representation of children's dress manufacturers. Branches Johannesburg and Durban.

DURBAN, S. A.

M. BEIT & CO. (B 2190). Associated offices in Johannesburg, Cape Town, Port Elizabeth and Bloemfontein. Cosmetics, fancy goods, furnishings, textiles, hardware, leather goods, automotive spares and accessories, automotive equipment and electrical fittings.

MONTAGUE BLUNT & CO. (B 2503). Seek direct factory representation interior decorations, plastics, indoor transport and similar lines; wrappings, packages, packings, also interested timbers and offer for export copra, copra oils and other African products.

D. D. TAIT (B 2846). MANUFACTURERS' REPRESENTATIVE. BRANCH OFFICE: CAPE TOWN. ASSOCIATED OFFICES: JOHANNESBURG, PORT ELIZABETH, EAST LONDON, DOMESTIC AND BUILDERS' HARDWARE, LAMPWARE, DOMESTIC ELECTRIC APPLIANCES, PROPRIETARY FOODSTUFFS, CANNED SEAFOODS, AND MEATS, ETC.

LARGESSE & CO. PTY. LTD. (B 2607). Export all grades of minerals, chrome ore, manganese ore, graphite, mica, etc.; wine and spirits. Import timber, heavy chemicals, fertilizers, etc.

HAROLD J. DRINN PTY. LTD. (B 560). Mechanical and electrical supplies. Domestic and commercial electrical appliances. Power plants, switchgear, electric motors, cables, conduit and accessories.

E. WAYNMAN McKEOWN (B 1436). Food products, hardware, soft goods and general merchandise.

REGENT PHARMACY PTY. LTD., 399 West St. Cosmetics, toilet requisites, chemists' sundries, fancy goods, proprietary medicines.

A. A. SAVAGE, 576 West St. Electrical domestic appliances. Motors and wiring equipment and accessories, fluorescent.

JOHANNESBURG, S. A.

ARGOSY IMPORTS PTY. LTD. (B 2452). Branches throughout South Africa. Specializing in women's, children's clothes and underwear, fancy goods, novelties and piece goods.

ASSOCIATED PROPRIETARY AGENCIES, LTD. (B 4247). Indent and distributing agents for toilet preparations.

ATKINSON & BARKER (B 3152). Manufacturers' representatives covering Southern Africa and Rhodesia. Interested only in handling quality goods direct from factory on commission basis. Specializing machine tools, hardware, textiles of all descriptions and sports equipment.

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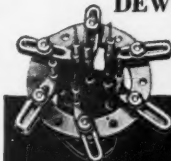
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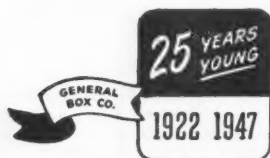


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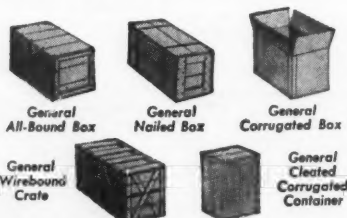
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government must step in—with multiplied bureaucracy and a bigger printing press, together with their unlimited capacity to perpetuate, rather than cure, mal-adjustments in production, employment, prices, and costs.

The Why of It

Often have I asked myself why some people who profess to believe in individual freedom and voluntary markets, nevertheless often subscribe to measures which mean state-ism. I think a good deal of the reason is just plain, good-hearted thoughtlessness which takes the form of "Let's give the other fellow a break," not realizing that this is the giving of power to undermine free institutions. I think some more of the reason is just untrammelled strife for personal or group power without regard to the cost to the community. Still more of it is ignorance of the inconsistency and danger involved. And there may be some who, knowing better, have not the courage to act and speak on their convictions.

Perhaps underlying all of these is something inherent itself in the marvelous mechanism of production and distribution which has arisen from the practice of individual freedom in America. I refer to the extreme division of labor, the high degree of productive specialization, the singleness of each person's source of income and the ever-widening area covered by his expenditures. I think that this has resulted in tremendous bias in economic perception and political judgment.

For example, ask anyone which he would prefer, a 10 per cent raise in salary, or a 10 per cent decrease in living cost. He will usually choose the first, figuring if he can get his single-source income up, he can somehow manipulate his multi-purpose expenditures to come out with a net advantage. He is deeply concerned about changes in his income; but changes of much greater proportions in items of his expenditure often fail even to get over the threshold of his perception. Yet accumulations of such unnoticed changes can mount up to far greater consequence than changes in the single item on the other side of the book to which he is so perceptively allergic. And so it is for the economy as a whole: our economy operates under a double-entry system.

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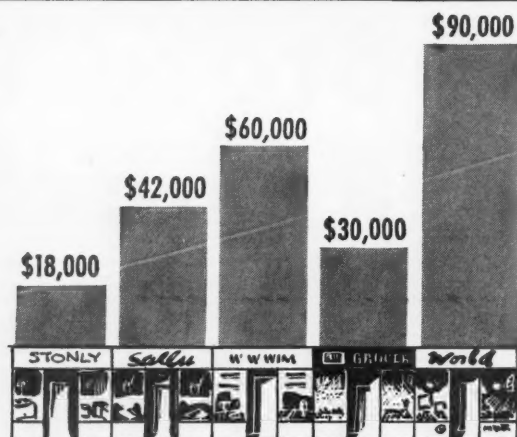
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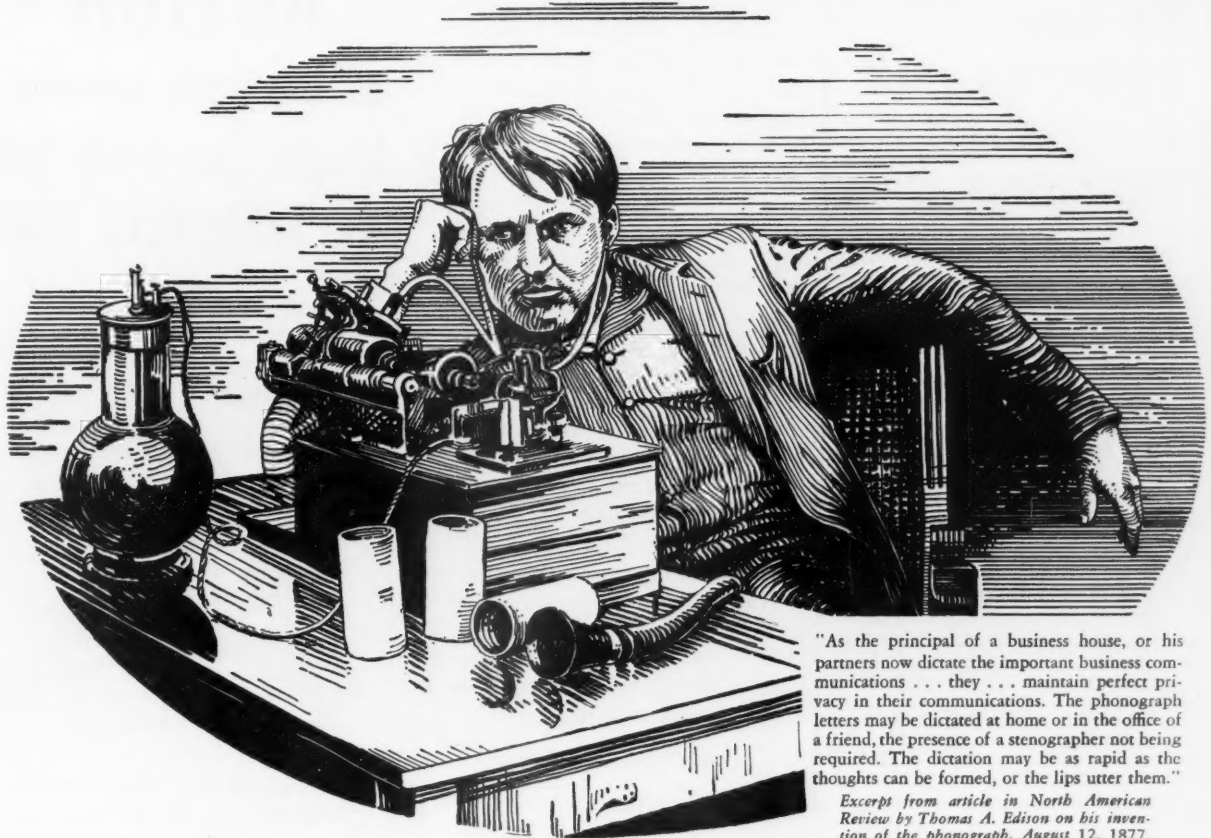
For any advantage here, there is a cost there. But the trouble is that the costs can be widely dispersed in time and space and so go unperceived and untotaled in balancing the books for net gain or loss; whereas the advantages can be appealing single and apparent.

Let's look next at another consequence of high-level, specialized production. Let's look right into the heart of the family where children grow up. More and more of these children fail to see their fathers at work. The father goes away in the morning to come back at night. Children are kept out of contact with the competitive struggle where the rule is that the warrant for having something is working. Instead, they are confined to the equality phases of family life. When the candy is passed everyone takes one apiece. If the children need something, the parents provide it within their ability to pay for it—not because the children have earned it. We are a rich nation because of our specialization in productive occupation. So we keep our children at home and in school, longer and longer. The academically proficient often go on to college and to graduate work and then become teachers in jobs financed by the State or by charity.

For many of them their whole experience in formative years drives home the theory that the warrant for having something is needing it or wanting it to the extent of somebody else's ability to pay for it. They have had no real contact, as in farm life, with working as the warrant for having. Is it any wonder that many of them should, in all sincerity, think and teach the children that we ought all to be one great big family under a benign, paternal government, clothed with authority to redistribute production according to need and with responsibility for keeping everyone happy?

The Principle of It

To the cynical these considerations mean that we should fold our hands and accept with resignation the departure of individual freedom from earth. I am not ready to do that. Instead, I remember being spanked as a child for having swiped a piece of chalk from the school room. I realize now that no one cared particularly about the chalk and no one was greatly inconvenienced by



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its removal—except myself! It was the principle of the thing that was at stake. The stealing of the chalk represented a small leak in the dike of moral conviction behind which we live. And leaks must be quickly plugged lest they become torrents.

So it is also with the principles of a free society. I think that there is some chance that apathy towards small leaks in the dike can be overcome before they become torrents by identifying them as violations of those principles that should be regarded as something sacred—principles derived from having countered *all* the costs however dispersed—principles derived from having read and learned the lessons of history—principles that in their derivation cover not only economic well-being, but also individual rights and moral convictions. Then I hope the small leak, instead of going neglected, will automatically bring to bear upon itself the corrective force of accepted principle—just as such a corrective force came rather disconcertingly to bear on the chalk stealer's anatomy.

Five Suggested Principles

Such principles, and adherence in word and deed to them, have to come out of each man's own conscience. So it is with some diffidence that I suggest a few principles:

1. Government is the superior instrument to coerce. The economic purpose of government in a free America must, therefore, always be exclusively and solely to employ its superior compulsion to prevent fraud, predation, coercion, and monopoly abuse among those governed.

2. To that end, determination of the kind and amount of whatever non-harmful goods are to be produced, where, when, by whom, and at what price or wage, must ever be left to the voluntary and competitive decisions of those concerned. For government to dictate in these matters is for government itself to engage in the very coercion or monopoly abuse which it is government's function to prevent. For the same reason, government itself should never engage in or subsidize production for competitive sale.

3. It is the function of government to keep honest the nation's money. This means it should not in peace-time

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Condensed Annual Statement as on November 30th, 1946

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Cash on Hand, in Banks and in Bank of Canada.....	\$ 385,596,619.00
Government, Provincial and Municipal Securities not exceeding market value	1,098,880,239.00
Other Bonds, Debentures and Stocks not exceeding market value	65,269,639.64
Call Loans	59,995,668.76
Commercial Loans	421,076,122.08
Bank Premises	10,455,268.21
Liabilities of Customers under Letters of Credit and other Assets	90,700,759.88
	<u>\$2,131,974,316.57</u>

LIABILITIES

Capital, Reserve and Undivided Profits.....	\$ 77,221,929.22
Notes of the Bank in Circulation.....	5,679,439.63
Deposits	1,963,103,951.92
Letters of Credit and Other Liabilities.....	85,968,995.80
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tolerate, or itself ever practice, the alternate expansion and contraction of the money supply.

4. Taxation by representation means that taxation must equally burden the members of the electorate. It means that government should grant no tax-offsetting gifts or subsidies. It means government should not seek to lay tax burdens on minority groups which majorities escape.

5. My final principle is not really a principle—it is merely a personal definition of what freedom means in America. To me it means not only that no man must physically injure another or take property from him, without his consent; but also and most especially it means that not even government must do these things except to punish those who do them to others.

Freedom is definable only as the absence of coercion between men. It is obtainable when government's superior power to coerce is employed to cancel out coercion between men. The ever-present and awful temptation of government is to employ or delegate its coercive power beyond that point for seemingly benevolent purposes. But government can give nothing to some without taking something from others. But taking without paying replaces freedom with despoliation and invites the predatory to entrench themselves in the enjoyment of the spoils. That is where serfdom to the state begins. That is where it has begun in America. That is where it must be stopped if America is to remain productive and free.



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SALT

(Continued from page 21)

discovery of salt deposits within their own boundaries. Herodotus' account of the caravan routs from the African coast to the salt oasis deep in the desert makes it plain that this was mainly a salt road, and to the present day the caravan trade of the Sahara is principally a trade of salt.

The salt from surface deposits in Syria near the Holy Land was an important factor in opening the vast shipping trade through the neighboring Red Sea, around Arabia, and up the eastern coast to cities bordering on the Persian Gulf.

Trade through the Black Sea to and from South Russia was largely brought about by the salt deposits near the mouth of the Dnieper River.

In Italy, the salt works of Ostia at the mouth of the Tiber River were established a few years after the founding of Rome and one of the principal highways to the Eternal City, leading nowadays through the heart of the metropolis, is still named the Salt Road (Via Salaria). To purify the salt after it was evaporated from the waters of the Mediterranean Sea, the Romans piled it up in heaps and burned fires around the heaps. This hardened the surface of the salt so that when any rain fell, it slid off without dissolving much of the salt. The water originally present in the salt, being prevented from evaporating, drained off and carried with it some of the soluble bitter salts present in sea water, thus rendering the salt itself more pure and dry.

Salt helped to make the fame of Florence. The monopoly on salt was in the hands of the state, which owned the ancient salt pits near Volterra, but upon the Guild of General Provision Dealers developed the retail sale of this indispensable commodity. Their supply of salt was so important to the community that in 1266 the Guild became popularly known as "The Guild of Salt Merchants."

Florentine salt-merchants became famous. A document dated November 16, 1564 is in the possession of the Paganelli family, by which Queen Elizabeth of England grants to Tommaso Baroncelli of Florence the privi-

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Founded 1824

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CONDENSED STATEMENT OF CONDITION

At the close of business, December 31, 1946

ASSETS

Cash and Due from Banks	\$242,226,400.29
U. S. Government Obligations	628,273,214.21
Bankers' Acceptances and Call Loans	75,095,698.65
State and Municipal Bonds	56,239,843.05
Other Bonds and Investments	52,000,557.41
Loans and Discounts	282,138,718.36
*Banking Houses	239,793.50
*Other Real Estate	2,231,828.53
Mortgages	145,911.37
Credits Granted on Acceptances	5,443,717.48
Accrued Interest and Accounts Receivable	3,045,915.01
Other Assets	492,674.05
	<u>\$1,347,574,271.91</u>

LIABILITIES

Capital Stock	\$25,000,000.00
Surplus	70,000,000.00
Undivided Profits	8,501,663.45
Unallocated Reserves	5,980,149.43
	<u>\$109,481,812.88</u>
Reserves for Taxes, Expenses, etc.	4,139,729.72
Dividend Payable Jan. 2, 1947	1,125,000.00
Acceptances Outstanding	\$6,044,885.78
(Less own acceptances held in portfolio)	416,042.33
	<u>5,628,843.45</u>
Other Liabilities	376,344.91
Deposits (including Official and Certified Checks Outstanding \$54,439,048.50)	1,226,822,540.95
	<u>\$1,347,574,271.91</u>

Securities carried at \$49,990,552.56 in the foregoing statement are deposited to secure public funds and for other purposes required by law.

* $\frac{1}{2}$ Assessed Valuation \$4,056,690.00

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Member Federal Deposit Insurance Corporation

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N. V. BICKER & v. d. ROER, Sarpahatikade 4, Amsterdam. Importers and exporters of technical and chemical products.

BOOM-RUYGROK LTD., Printers and publishers, Harlem, Holland. Make first-class printing works, also for export, are at the same time publishers of many trade journals a.o. *De auto*; *Vliegwereld*; *Weekblad Voor de Vakgroep Smederij*; *Textiel & Mode*; *Elegance* (for the modern woman); *Lasch-Techniek*; *Figa* (cosmetic); *Bloembollen-cultuur*. Advertising rates are sent on application.

VAN DEN BOS HANDELSCOMPAGNIE, 105, Parkstreet, The Hague (Holland). Export department offers foodstuffs and all special Dutch products. Import department asks for sole agencies foodstuffs.

C. VAN DER BURG & ZONEN, Vlaardingen. Exporters of selected Dutch herrings all over the world. Agents wanted. Manufacturers of wooden barrels of any capacity and also of staves, headings and hoops.

"CHEMPHAR" CHEMISCH PHARMACEUTISCHE HANDEL M.Y., N. V. 228 Keizersgracht, P. O. Box 657, Amsterdam-C. Importers and Manufacturers. Representatives of chemical and pharmaceutical products.

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N. V. DAARENHOUWER & CO'S HANDELMAATSCHAPPIJ, Heeren-gracht 223-225, Amsterdam. General exporters to all parts of the world. New connections solicited.

JAN DON & CO., Vlaardingen. Cable address: Jadoco. Selected Holland herrings.

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N. V. IMPRIMEX INDUSTRIE-Productie-Import-Export, Amsterdam, Heeren-gracht 554a. Manufacturers representatives, importers and exporters of iron-metal and woodworking machines, technical goods, iron- and metal semi-products.

INKU, Heeren-gracht 503, Amsterdam. Manufacturer's agents. Export from Holland: Pooling of bituminized felt, paints and varnishes, phenolic glue. Affiliate: P. J. Veelo, exporters cigars, liquors, etc.

INTERNATIONALE HANDELSVEREENIGING, Amsterdam (Holland). Keizersgracht 431. Textiles of every description. Export. For publicity in Holland: *Three leading magazines*, "Moeder & Kind", "Film & Theater", Publ. Cy. "De Internationale Pers", Heeren-gracht 545-549, Amsterdam-C.

KAH, N.V. BUTTON WORKS, HEERENGRACHT 20, AMSTERDAM. BUTTONS AND BUCKLES.

KENNEMER HANDELSVENNOOTSCHAP SOOMERS & DE JONGE, Nwe. Keizersgracht 58, Amsterdam. Soap, cosmetics, perfumery, toilet articles, etc.

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MELCHERS & SANDBERGEN, AND FRANS VAN MIERRISSTRAAT 99, Amsterdam (Holland). Cable address: Mesametaal. Importers and exporters non-ferro scrap metals, residues, ores, chemicals and allied products.

MERREM & LA PORTE, N. V., Amsterdam. Technical office since 1870. General importers and exporters. Iron and steel, non-ferrous metals, technical goods.

MICHEL WASFIGUREN EN INSTALLATIE MAGAZIJNEN, Huidekoperstraat 25-27, Amsterdam (Holland). Manufacturers and exporters of high class display mannequins in hardened composition with inserted natural hair.

DE MUNCK & CO'S, Handelsmaatschappij, Amsterdam, Kloveniersburgwal 47. Cable: Muncolij. General exporters and importers.

N. V. "NEDO", Dam 2a, Amsterdam (Holland). Cable address: Nedo. General importers and exporters of CHEMICALS (heavy and fine chemicals, solvents, fertilizers, salt), TEXTILES (blankets, ladies' and children's underwear, curtains), LEATHER GOODS. Branches at Rotterdam and Antwerp.

V. S. OHMSTED, Paulus Potterstraat, Amsterdam. Importers of tool-machinery seeks agencies for lathes, milling-machines, shapers, automatic lathes, grinders. Buying on own account, exhibiting national Dutch fair March 1947.

"PENTO" COSMETIC, Gletterstraat 5-7, Amsterdam-C. Cable address: Pento, Manufacturers of all kinds of cosmetic products, i.e.: Toothpaste, shaving cream, powders, creams, lipsticks, lotions, brilliantine, haircream, shampoos.

YAN REELSTEIN & ROEPER BOSCH, LTD., Heeren-gracht 440, Amsterdam established 1873. Importers and representatives textiles every description, hardware, kitchenware, fancy goods, toilets, cosmetics, electric articles, tools, leather, crockery, glassware, plastics, furnishing lines, toys.

W. A. PESCH JR., Kelleweg 22, Rotterdam. Importers of fish meal, meat meal, vitamin oils, brewers' yeast, alfalfa, rice bran, pollards, cereals and by-products.

J. POLAK'S ENGROSHANDEL, Kloveniersburgwal 19, Amsterdam. Importers of woollens, silks, shawls, novelties, ladies' and children's dresses.

RENO HANDELMAATSCHAPPIJ N. V. (Reo Trading Co. Ltd.), Amsterdam, 33 Weteringschans. Importers of medical and surgical goods of all descriptions, electromedical and X-ray apparatus, glass bottles and laboratory glassware. Invites offers from U. S. A. and Canada.

ROOS' TEXTILE IMPORT, O. Z. Aeterburgwal 98, Amsterdam. Desire to represent manufacturers. Special sales organization equipped to handle rugs, carpets, lace curtains, underwear, hosiery, cotton piece goods, haberdashery.

RUBBERFABRIEK GLAZENER, Harderwijk (Holland). Manufacturers of dipped goods. Specialties surgical and pharmaceutical rubber articles.

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E. & L. DE SWAAN, Wittenburgergracht 1-3, Amsterdam. Cable address: Swanex. General importers and exporters for the U.S.A. and Mexico. We are interested in new connections.

TECHNISCHE HANDELSONDERNEMING E.T.A.H., A. RUTTEN: Bachstraat 17, Amsterdam (Holland). Want to represent or have sole selling rights for Holland in the line of electrical and radio equipment.

TRANSANDINE HANDEL MAATSCHAPPIJ, Amsterdam Heeren-gracht 106. Cable address: "Habillitas." Merchant bankers, members of the Amsterdam Stock Exchange.

WALDORF RADIO LTD. Import Department, The Hague, Holland. Wish to get into touch with manufacturers of machines and apparatus for domestic purposes.

L. F. WILL & CO., Amsterdam. Cable address: Willchemie. Established 1924. Chemicals, solvents, plasticizers, pharmaceuticals. (Sister company in Brussels.)

VAN DER WOUDE & FABISCH, Amsterdam, Rokin 30. Exporters of rails, sleepers, tipping wagons, sugar cane and sisal cars, special constructions, locomotives, cranes, electric and diesel motors, steel sheets and all raw material made of iron and steel, tugs, etc.

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lege of introducing into England the art of refining salt as practised in Florence and "the monopoly of manu-facturing white salt for a period of twenty years."

Salt has been a most important article in the economy of English life. For many centuries the English people lived for half the year on salted meat. On St. Martin's Day, November 11, the medieval farmer took stock of his hay and forage and, if there was not enough to feed all the cattle through the Win-ter, he butchered those he could not feed and salted the meat for Winter use. The abundant salt deposits at Cheshire, discovered in 1670, had not been found as yet—the English depend-ing on salt from evaporation of sea water or from salt springs. Some salt also was quarried, as the Romans had done in England a thousand years before.

Influence on Fishing

The important English cod and her-ring industry depended on salt. The Roman Church prescribed a fish diet for a considerable part of the year and so an abundance of salt was needed to preserve the fish. Holland was under the economic control of England at the time and the Hollanders were clever fishermen. So honored was one of the Flemings of Holland for discovering a new way to cure herring with salt that King Charles I of England ordered mass to be said over the man's tomb and the King himself attended the ceremony.

The history of the northeastern region of America has been dominated by the fish and salt industries. Not long after the first settlement by the English, the expansion of the fishing industry brought about a growth of shipping, and there followed exports of salted fish to Europe and the West Indies, and imports to this country of salt and other commodities of lower value than fish, which brought imports of money to young America.

European nations with supplies of cheap salt, such as Portugal and France, became actively engaged in the New-foundland fishing industry, which ac-counts for the large French popula-tion in the Gaspé Peninsula of eastern Canada today.

The growth of English fishing in-

terests, which reached a high point of 250 ships in the 1500's, strengthened the hold of the English in Newfound-land. To obtain salt, which was not so plentiful in England, the English agreed to protect the Portuguese against their rivals, the French, who had 300 fishing ships. The Portuguese did not always live up to their agreement, as Parkhurst complained in 1578, stating that the Portuguese had promised to deliver salt to the value of 600 livres in return for protection from the French for two years, but that as a result of their failure to deliver the salt and the consequent spoilage of fish, he moved to recover from the Portuguese as much fish as 600 livres worth of salt would preserve.

It had been the policy of England to encourage the fishing-ship industry as a basis for a larger navy and short-ly before the French-English war broke out in 1689, it was recommended that convoys should accompany and protect the salt ships leaving for America.

A British Act of 1663 required that European commodities could only be sent to the American colonies when loaded and shipped from England. The purpose of the law was, of course, to compel the American colonists to buy their imports from British mer-chants. Complaining about this law, John Hull wrote from Boston on De-cember 22, 1677: "If we send our fish to Bilboa, Spain, at great hazard and pro-cure fruits, oil, soap, wine, and salt (the bulk of our loadings salt, because that is most necessary for us, and always ready to be had at Cadiz), we must go to England to pay his majesty's cus-toms; which is as the cutting off of our hands and feet to our trade, and this orphan plantation will be crushed."

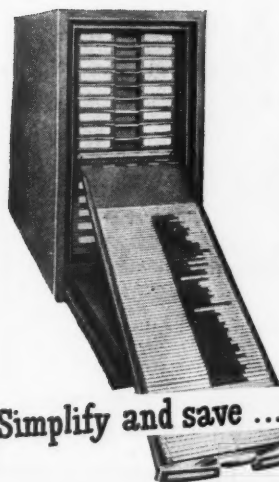
The English law made an exception in the case of salt for the fisheries, which was permitted to be sent direct from any European port to New Eng-land. This marked the beginning of smuggling, as other commodities in addition to salt were loaded on the salt ships.

In contemplating the possibilities of commercial progress in the New World, Sir George Peckham in 1584 wrote, "God granting that salt may be found there."

Salt manufacture was the first Ameri-can industry. The expansion of the



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Any inventory
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you borrow is limited only by the value
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DR-2-47

fisheries all along the coast of America led to contacts with the Indians and the development of the fur trade. Here salt was required to preserve the skins of animals. The colonies offered a bonus for salt production and many of the early patents were for methods of salt manufacture, including the first patent granted in America in 1641 to Samuel Winslow, by the Massachusetts Bay Colony. Water was carried or pumped from the sea by means of windmills and the salt was obtained by solar evaporation in ponds. Two hundred and fifty gallons of sea water were evaporated to make one bushel or 70 pounds of salt. Sea salt is distinctly unpleasant in foods, but it was the only salt obtainable.

Fostered America's Growth

As time went on and the American pioneers pushed their resistless way through the wilderness, clearing forests, planting grain, and engaging in stock raising, the salt which made their progress possible, to preserve their meat and for household and agricultural use, was obtained by boiling and evaporating the water from salt springs, the locations of which influenced the pioneer's route westward.

Beginning in an isolated manner, salt manufacture was accomplished in cast iron kettles, set in blocks of brickwork in parallel rows. A double block contained as many as 80 kettles of 100 gallons each.

Toward the end of the last century, Joseph Duncan, an American, started a salt company at Silver Springs, N. Y. He employed a revolutionary new process—the vacuum pan process—which is in use today. This method produces a uniformly grained salt of very high purity.

Wells are bored and water is piped down to salt strata in the earth. The resulting brine is pumped up, filtered, and purified. After evaporation in giant vacuum evaporators, the salt is drawn off and conveyed to dryers. It is then screened to separate crystals of different size used for various food and industrial purposes.

The more civilization has progressed, the more demand there has been for salt and today's mammoth salt requirements in America are supplied by 123 manufacturing organizations, two

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This advertising agency is able to *sell* not only through paid space, radio and other accepted advertising media, but it has on occasion acted as selling agents in a limited way for some of its clients and it has achieved excellent results. On occasion this agency has developed *entirely new* channels.

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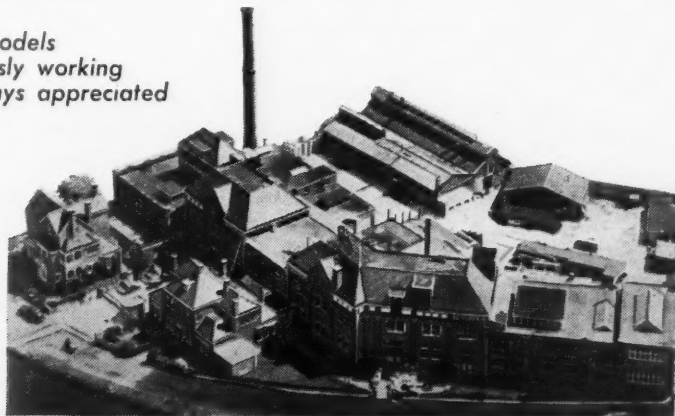
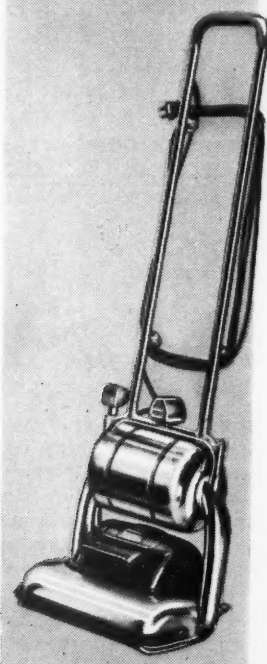
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On this page you will meet some EFA Features. For more than twenty years EFA have gained the praise of the Dutch housewives by their fair achievements on the domain of electrical household appliances.

Now we are also able to meet demands from overseas and Importers' requests for fuller particulars will be gladly answered.

- E *Elegant Models*
- F *Faultlessly working*
- A *Always appreciated*



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thirds of the evaporated and rock salt coming from three States—Michigan, New York, and Ohio. The United States production of salt is about 40 per cent of the world total. Imports and exports are negligible.

The many and varied uses of salt point to the wealth that is ours in this inexpensive mineral—too often taken for granted. Even in these days of substitutes for almost everything, there is no substitute for salt. We are fortunate indeed in having all we need.

PRODUCTION

(Continued from page 18)

If one tries this on the values of chart III, he gets

AT R =	ACTUAL BURDEN	VALUE OF FRACTION	BURDEN AT STANDARD
0	2.00	10/8 = 1.25	2.50
1	2.25	10/9 = 1.11	2.50
2	2.50	10/10 = 1.00	2.50
3	2.75	10/11 = .91	2.50
4	3.00	10/12 = .83	2.50

This develops a formula for calculating the burden at standard without going through the laborious, uncertain work of analyzing a large number of accounts and separating them into fixed, semi-fixed, and variable groups.

Let us apply the theory to an actual case. From the profit and loss statements from 1935 through 1940 of an actual company the following values were taken:

D = The direct labor charges.

B = The total burden charges excluding over-time premium, which should be excluded because it vanishes at an operating rate higher than standard.

R = The operating rate. Great care must be used in selecting an operating rate scale. Dollar values are obviously worthless as the scale fluctuates with the price level; a million dollars of business today represents a much smaller operating rate than it did a few years ago. Total pounds or a similar physical unit would be satisfactory provided there has been, and will be, no change in the size of the plant. For instance, if the output of the plant were doubled by buying the plant next door the pounds would increase but there should be no change in the indicated operating rate.

Per cent of capacity makes a good

"AHEAD \$50 a month in our shipping room," say users of Marsh Stencil Machines, Brushes, Inks! Three sizes to meet Gov't Spec., 1", 3/4", 1/2". Pin this to business letterhead for free sample stencil, shippers' handbook, prices.

MARSH STENCIL MACHINE CO.
62 Marsh Building
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END ALL WRAPS PROBLEMS

Office VALET Wardrobe Racks and Costumers end "wraps" problems. Keep clothing "in press," aired on spaced hangers; provide ventilated spaces for hats, overshoes and umbrellas. Save floor space, accommodate 3 persons per sq. ft. Fit in anywhere. Lifetime welded construction. Modern lines and colors. 6-place non-tipping costumers—12 and 24-space 4-foot racks. Endorsed by top office planners—in industry—institutions—municipal buildings—schools—professional use.



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Bulletin
No. H-2

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624 South Michigan Ave. Chicago 5, U. S. A.

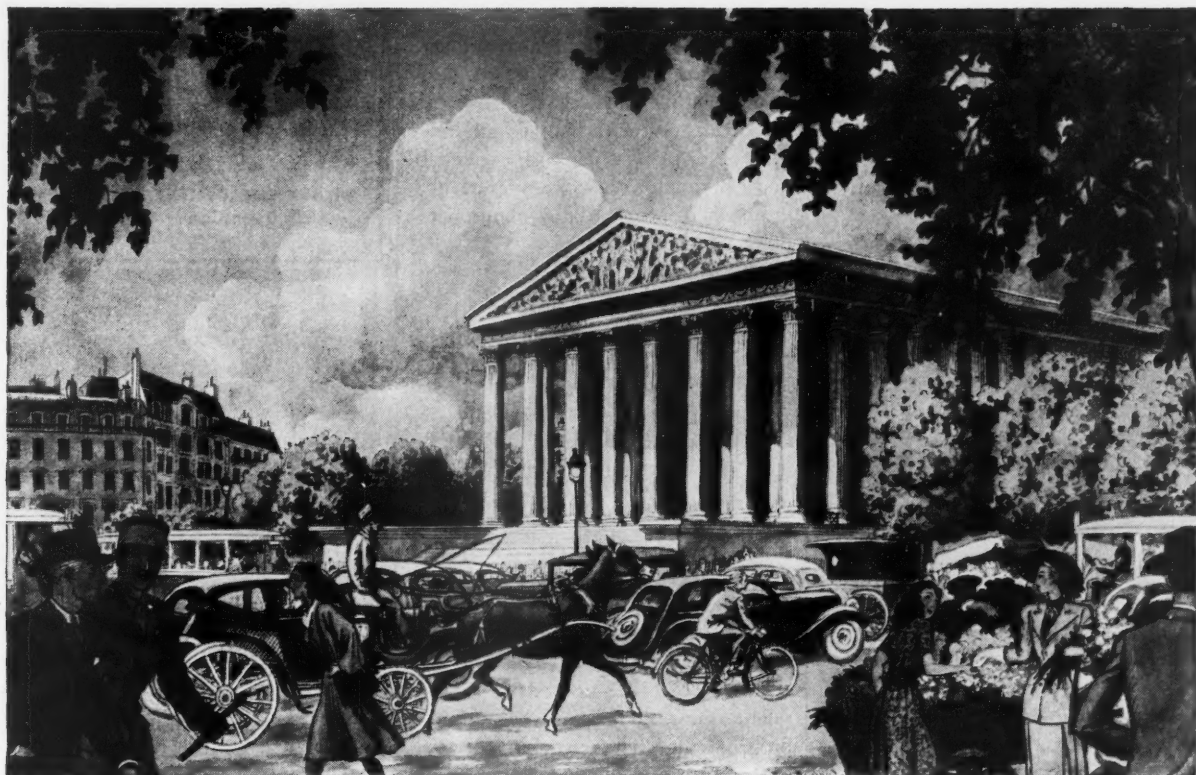
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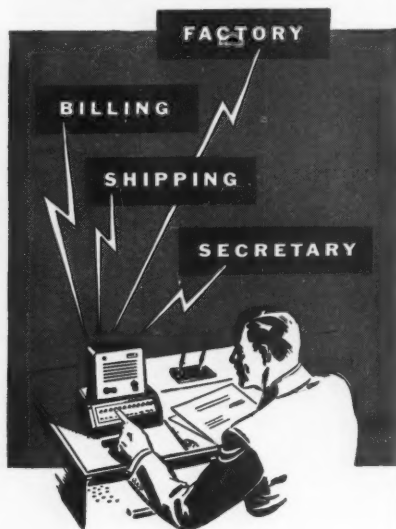
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operating rate scale, as do also values such as productive hours per machine per year, or pounds per unit per year. The operating rate scale used *must* be independent of price changes and independent of plant expansion or contraction. It should respond only to changing density, so to speak, of plant operation.

The following operating rate is an arbitrary scale with the point R = 100 taken as standard. Any scale could have been used and any point on it selected as standard.

	DIRECT LABOR D	TOTAL BURDEN B	OPERATING RATE R
1935.....	\$6,783	\$14,726	63
1936.....	8,780	19,105	88
1937.....	12,800	23,140	101
1938.....	6,434	15,171	44
1939.....	10,177	21,126	75
1940.....	15,070	29,365	102

In selecting the years to use, it will be well to keep away from war times for two reasons. First, because government controls upset free market relationships, and second, because it is probable that when working at very high rates of production, under get-it-out-at-any-cost conditions, the burden line at these high rates is no longer straight but curves upward due to overcrowded plant conditions. If such years are used and if they show up as "wild points" they should be discarded when determining the relationship. What we are after is the action of burden under peace-time conditions.

From the above amounts the values of $BR \div D$ are calculated as follows:

	R	$BR \div D$
1935.....	63	137
1936.....	88	191
1937.....	101	183
1938.....	44	104
1939.....	75	156
1940.....	102	199

If one plots these points he gets the results shown on chart V. Since accounting is not an exact science one experiences some departure from the theoretical straight line. It is evident however, that the theory is correct.

The three ways of determining the formula for the straight line to fit the points in chart V are (1) graphically, (2) two-point average, and (3) least squares.

The Graphic Method

Draw in by eye (chart VI) a straight line which best fits the collection of points and extend it to the value of

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$R = 0$. (All of these plotted diagrams should be duplicated by the reader on large cross section paper. The graphic method necessitates personal judgment. The reader's judgment may be different from the author's.) By inspection it is judged that when $R = 0$ the value is, say, 40 and when $R = 100$ the value is, say, 195. The line then starts at 40 and increases by 155 ($195 - 40 = 155$) when R increases by 100. The formula therefore is $BR \div D = 40 + 155/100R$ or $BR \div D = 40 + 1.55R$.

Two-Point Average Method

Average the three points at the left and the three at the right.

	R	BR ÷ D	R	BR ÷ D
	44	104	88	191
	63	137	101	183
	75	156	102	199
Total	182	397	291	573
Average	60.7	132.3	97.0	191.0
	$= X_1$	$= Y_1$	$= X_2$	$= Y_2$

These points can be plotted and a straight line drawn through them and extended. It can then be treated as in the graphic method. If treated algebraically the formula is

$$\frac{BR}{D} = \frac{(R - X_1)(Y_2 - Y_1)}{X_2 - X_1} + Y_1 =$$

$$\frac{(R - 60.7)(191.0 - 132.3)}{97.0 - 60.7} + 132.3 =$$

$$34.1 + 1.617R$$

Least Squares Method

Since the line is theoretically straight, the least squares method will give the formula which is mathematically the most probable. Perform the following calculations:

R	BR ÷ D	(R)(BR) ÷ D	R ²
63	137	8,631	3,969
88	191	16,808	7,744
101	183	18,483	10,201
44	104	4,576	1,936
75	156	11,700	5,625
102	199	20,298	10,404
Total	473	970	80,496
	$= W$	$= X$	$= Y$
			$= Z$

N = number of items, in this case 6.

The formula for the line is $BR \div D = a + bR$ in which a and b are found from the simultaneous equations $X = Na + Wb$ and $Y = Wa + Zb$. Substituting $970 = 6a + 473b$ and $80,496 = 473a + 39,879b$.

To solve these equations multiply the first by the number which will increase 6 to 473. This is $473/6 = 78.833$. The two equations then become $76,468 = 473a + 37,288b$ and $80,496 = 473a +$

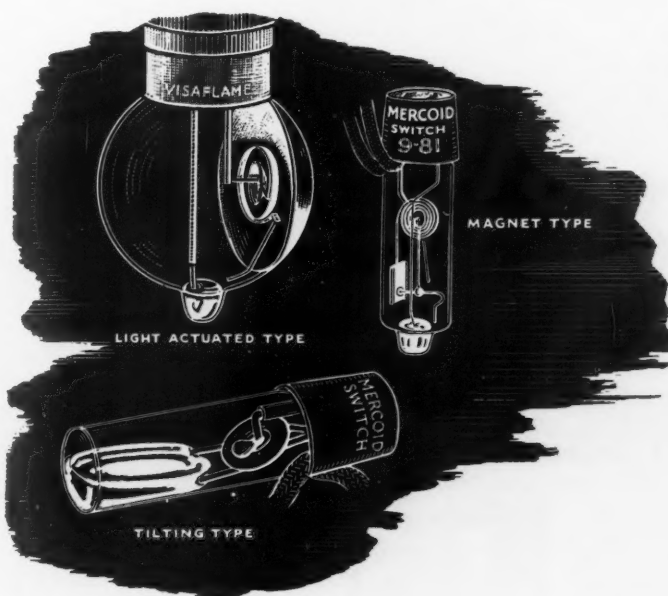
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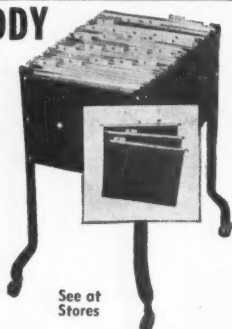
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39,879b. Subtract the first from the second $4,028 = 2,591b$ or $b = 1.555$. Substitute this value of b in one of the original equations $970 = 6a + 473(1.555)$, then $6a = 235$ and $a = 39.2$. Put these values of a and b into the general formula, $BR \div D = 39.2 + 1.555R$.

The three methods give formulas as follows: graphically, $BR \div D = 40 + 1.55R$ (chart VI, G); two-point average, $BR \div D = 34.1 + 1.617R$ (T.P.); and least squares $BR \div D = 39.2 + 1.555R$ (L.S.). Although the least squares formula would be considered the best one to use, either of the others would be quite satisfactory.

How to Use the Formula

In using the formula graphically continue the line which was drawn in by eye until it meets the R axis ($BR \div D = 0$). This will be at about $R = -26$ (chart VII). This point is called the Burden Vanishing Point and is common to all six years, and if the past is an indication of the future it will be common to all future years until some radical change is made in production.

Make a chart (chart VIII) with dollars as the vertical scale and R as the horizontal scale. Suppose for some year the actual total burden was \$40,000 and the rate of operation was 140. Find this point on the chart and connect it by a straight line to the Vanishing Point, $R = -26$. Read the dollar value where this line crosses the vertical line $R = 100$ (the standard operating rate). This is read from the chart as \$30,300 which is the standard burden. Where it crosses the zero line the value is \$6,200 which is the fixed portion of the burden.



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The fixed burden is not the burden with the plant shut down. It is the fixed portion of the operating burden. At an actual operating rate of zero, the plant would be closed and the burden somewhat less than shown. The fixed portion of the burden may be visualized by saying that it is the burden when the plant is manned and running but producing only a minimum amount—say, one dollar's worth a year.

The same chart can be used for monthly as well as yearly values if 100 is considered as the monthly standard. If the monthly rate was 140 and the actual burden \$3,333 (1/12 of the year) the standard burden would be \$2,530 and the fixed burden for the month would be \$520.

Although it is not a part of burden determination it is interesting to note that over — and under — burden absorption can be represented graphically (chart IX). The burden line in chart VIII represents the actual burden which would be spent at any operating rate. The burden actually figured into sales is represented by a line from the origin (\$ = 0, and R = 0) through the point \$ = 30,300 and R = 100. The vertical difference between these two lines is the over — or under — earned burden. At R = 140 the burden spent is \$40,000 but the burden earned is \$42,400. This makes \$2,400 over-earned or $2,400 \div 40,000 = 6$ per cent over-earned.

Algebraic Determination

Either the two-point or the least squares formula can be used. Using the latter, the value of $BR \div D = 39.2 \div 1.555R$ or

$$B = \frac{D}{R} (39.2 + 1.555R).$$

At standard operating rate the value of the standard burden is

$$B_s = \frac{D}{R} (39.2 + 1.555 \times 100) = \frac{D}{R} (194.7).$$

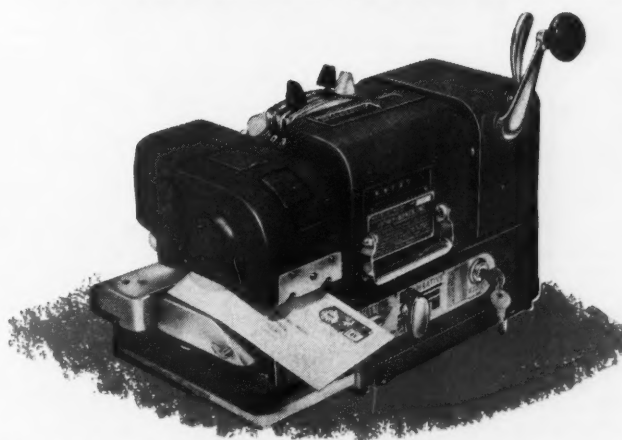
Required is a factor (F) by which the actual burden may be multiplied to get the standard burden or $BF = B_s$. Then

$$F = \frac{B_s}{B} = \frac{\frac{D}{R} 194.7}{\frac{D}{R} (39.2 + 1.555R)} = \frac{194.7}{39.2 + 1.555R}$$

If at any operating rate, the value of R is substituted in this fraction to find



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Obligations of Other Federal Agencies	12,684,677.46
State, County and Municipal Bonds	25,605,056.06
Other Bonds and Securities	2,922,928.87
Stock in Federal Reserve Bank	750,000.00
Loans and Discounts	270,256,214.05
Bank Premises and Equipment	5,626,973.25
Other Real Estate	12.00
Customers' liability under letters of Credit and Acceptances	5,425,176.14
Accrued Interest Receivable and Other Assets	3,718,645.70

TOTAL RESOURCES . . . \$978,593,547.06

LIABILITIES

Deposits	\$934,032,783.00
Letters of Credit and Acceptances	5,425,176.14
Reserve for Interest, Taxes, Etc.	3,731,233.93
Other Liabilities	4,134,410.22
Capital Stock	
Preferred	\$7,286,100.00
Common	7,577,781.78
Surplus	13,136,118.22
Undivided Profits	3,269,943.77

TOTAL LIABILITIES . . . \$978,593,547.06

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F, and if the actual burden is multiplied by F, the result will be the standard burden. This formula also shows the Vanishing Point for graphical use. It is the 25.2 in the denominator with its sign changed from plus to minus and is also equal to $39.2 \div 1.555$. As in the previous example suppose the burden is \$40,000 and the operating rate is 140, then the fraction is

$$F = \frac{125.2}{25.2 + 140} = .7579.$$

This means that \$40,000 (.7579) = \$30,316 which is the standard burden. The monthly burden of \$3,333 multiplied by .7579 gives \$2,526.

In the above examples we have considered both the year and month standards to be 100, as would be the case if the operating rate unit was similar to per cent of capacity. In other cases the situation may be such that the monthly value is one-twelfth of the year. In such a case the formula for F may be changed by dividing all values by 12, as

F (for months) =

$$\frac{\frac{125.2}{12}}{\frac{25.2}{12} + \frac{R}{12}} = \frac{10.43}{2.10 + R_m}.$$

In the example used the operating rate for the month would have been $140/12 = 11.67$. Then

$$F_m = \frac{10.43}{2.10 + 11.67} = .7574.$$

This is the same value as obtained before (exactly if carried out to sufficient decimal places) but the formula is adapted for monthly values. The monthly standard operating rate is 8.333 and the Vanishing Point is -2.10 .

Over — and under — earned burden per cent is determined algebraically as follows: Burden spent =

$$B = \frac{D}{R} (39.2 + 1.555R).$$

Then at $R = 100$,

$$B = \frac{D}{R} (39.2 + 1.555 \times 100) = \frac{D}{R} 194.7 =$$

Burden earned. Therefore burden earned =

$$B_E = \frac{D}{R} 194.7 \text{ or } \frac{D}{R} 1.947R.$$

The difference, divided by the burden spent, multiplied by 100 (to get a per cent instead of a ratio) is

$$\frac{100 (B_E - B)}{B} = \frac{100 B_E}{B} - 100 =$$

$$\frac{100 \frac{D}{R} 1.947R}{\frac{D}{R} (39.2 + 1.555R)} - 100 =$$

$$\frac{125.2R}{25.2 + R} - 100 \text{ or } \frac{25.2R - 2,520}{25.2 + R},$$

which is the over-earned burden per cent at any operating rate.

Calculations Summarized

The result of all the steps described has been to find a single formula (F) which will easily change actual burden to standard burden. It is, in the case used, based on six years of experience and therefore reasonably permanent for future use.

The entire process can be applied to any sub-division of total plant burden, factory, department, administrative, or selling, or to any individual item of expense. The total factory direct labor can be used with each, although in determinations by departments it may be desirable to use the department direct labor, especially so when the object is to find the department burden as a standard per cent of direct labor.

In setting up variable budgets, if this method is applied to individual expense items, it is possible to forecast their value at any operating rate.

Allocating Standard Burden

Standard burden may be allocated in two ways: (1) as a percentage of direct labor and (2) as hourly or tonnage rates on machines and processes.

When allocating standard burden as a per cent of direct labor, it is necessary to find the standard burden by the factor (F) formula applied to the actual burden; also to find the standard direct labor from the actual direct labor, which varies directly with the operating rate. The standard burden, divided by the standard direct labor, gives the standard burden as a percentage of direct labor. In other words, the actual burden is to be multiplied by F when

$$F = \frac{125.2}{25.2 + R}$$

and the direct labor must be multiplied by $100 \div R$.

	ACTUAL		100	STAND.		ACTUAL	STAND.	
	R	D	R	D	B	F	B	%
1035	63	6,783	1.587	10,765	14,726	1.420	20,011	104
1036	88	8,780	1.136	9,974	19,105	1.106	21,130	212
1037	101	12,800	.990	12,672	23,140	.992	22,955	181
1038	44	6,434	2.273	14,624	15,171	1.809	27,444	188
1039	75	10,177	1.333	13,566	21,126	1.250	26,408	195
1040	102	15,070	.980	14,769	29,365	.984	28,895	196
							Average	194

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indicates that 1935 was an average year as were also 1939 and 1940. In 1936 the burden rate was high. This could have been caused by unusual charges to burden or because burden temporarily increased by a greater percentage than labor, or a combination of the two. During 1937 the trend swung the other way and 1938 shows a return towards average conditions.

This situation is also indicated by the position of the points in chart V. Obviously "putting everything but the kitchen sink" into burden affects this as well as any other method of determining rates. Expense items should be screened before starting any type of burden determination work.

Monthly Values

The same process can be applied to monthly values to have current information on how burden is changing.

TYPICAL MONTHLY VALUES

	ACTUAL	100	STAND.	ACTUAL	STAND.	
	R	D	R	D	B	F
1946	120	24,780	.833	20,642	46,442	.862
Jan.	120	24,780	.833	20,642	46,442	.862
Feb.	90	18,872	1.111	20,967	37,614	1.087
Mar.	20	4,247	5.000	21,235	14,642	2.770
Apr.	80	19,320	1.250	24,150	34,271	1.190

What happened in March and April? There was a strike for the last three weeks in March followed by a 15 per cent increase in labor. This increased the standard labor but did not affect the standard burden. The percentage therefore, dropped. When the suppliers of the products composing burden increase their prices, the percentage will climb back towards the value of 194. Plotting the percentage values by months gives a running picture of what is happening.

It is obvious that it would be useless to calculate the ratios of the actual values of burden and direct labor. Such ratios would be: January, 187 per cent; February, 199; March, 345; and April, 177. These do not tell anything worth knowing. Without corrections for rates of operation, ratios of actuals are incorrect and misleading. When operating above standard rate they will always be low and vice versa. Goods priced on the basis of actual ratios will not produce any over-earned burden in good times to balance the under-earned burden in poor times.

As business decreases, the burden, and therefore the indicated cost, becomes higher and higher and there

exists a situation in which the company prices itself out of business at a constantly accelerated rate. Many companies have failed because they did not realize that costing should be done at standard rates of operation all the time, in order to let the excess earnings in peak production balance the loss in valley operation, and also to give steadiness to pricing regardless of current operating rate.

Hourly or Tonnage Rates

Standard burden may be allocated as hourly or tonnage rates on machines and processes. This method will be recognized by accountants as similar to an over — or under — earned burden analysis. Instead of using the actual burden rates which happen to be in use at the time, an arbitrary set is selected which remains constant for all time. Some one machine or process which predominates and which is common to most plants in that industry is selected and arbitrarily called unity, that is, 1.00, and then all other machines and processes are evaluated relatively on that basis.

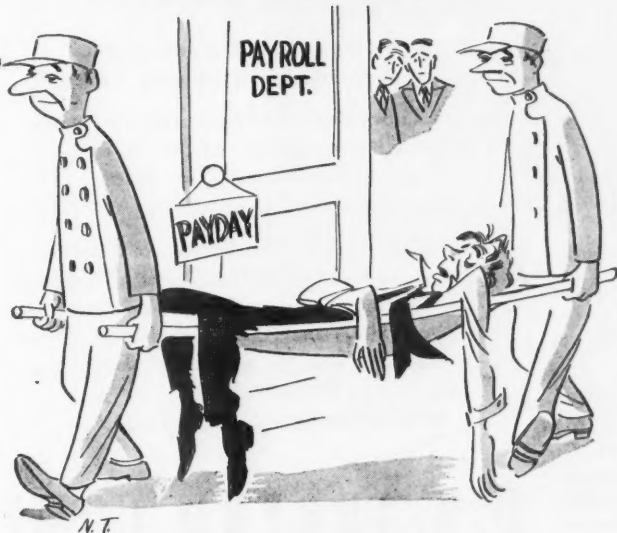
If there is a history of rates, every list should be evaluated as multiples of the rate which has been selected as unity. These evaluations are called Burden Ratio Units (BRU). The BRU for a particular machine or process may be somewhat different for each different list of old rates but they will tend to gather around a central value. If they are averaged a fair value for future use will be obtained. It is obvious that the burden rates of machines and processes of a similar nature *must* stay in a fairly fixed ratio.

Suppose one selects machine No. 3 as the reference point of unity, and the

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Boston, Massachusetts

" . . . our payroll now takes us approximately 40% less time than it did when we were using our old system . . . our records are more complete and are much more easily analyzed."

L. W. Ferdinand & Co., Inc.
Newton Lower Falls, Massachusetts



ROCHESTER NEW YORK

SALES OFFICES IN PRINCIPAL CITIES
DISTRIBUTORS THROUGHOUT THE WORLD

THE TODD CO., INC., Rochester 3, N. Y.

Please give me the facts about Todd Payroll Systems that speed quarterly reports, cut payroll posting time, increase accuracy and meet all State and Federal regulations.

Company _____

Address _____

City _____ County _____ State _____

By _____

D-2-47

Seller's THE HOLIDAY IS OVER!

It's a new year . . . and a new market.
The period of indiscriminate buying is over.

Now, your advertising must pack real sales punch
to convince the increasingly cautious buyer . . .
to produce the **RESULTS** you want.
Now, more than ever, your advertising must **SELL!**

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Ahrend has produced **RESULTFUL** Direct Advertising.

Let our staff of experts plan and produce
your 1947 Direct Advertising. It's
the direct way, the economical way
to **BETTER RESULTS.**

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A well organized, rated Pennsylvania Hardware Specialty Mfg. Business, now operating and ready for broad expansion, is available to a manufacturer with thorough domestic distribution of his own products, manufacturing-space and ample capital.

Our products retail \$4.00 to \$10.00, are patented and without competition, nationally known, well regarded and stocked by leading Dealers. Worldwide Export market in development.

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Owner will consider outright sale or merger with firm of high reputation. This is no forced sale and only qualified inquiries from Principals will be considered.

Please address: Box 91, Dun's Review,
290 Broadway, New York 8, N. Y.

result of study of past rates results in the following list:

		BRU
Machine No. 1		.60 per hr.
" " 2		.90 " "
" " 3		1.00 " "
" " 4		1.50 " "
" " 5		3.00 " "
Process No. 6		6.00 per ton
" " 7		10.00 " "

A standard number of productive machine hours must be selected and a standard tonnage must then be calculated. The machine hour value might be 125 hours per machine per month. (The selection of this value involves consideration of many factors not pertinent to this paper.) The standard tonnage can then be found by multiplying the actual tonnage of several different months by 125 and then dividing each product by the actual average productive machine hours for those months and averaging the results.

Suppose this value is 90 tons. One then has the following total BRU's being spent in a standard month, with an assumed number of machines.

No.	BRU PER MCH.	Hrs. PER MTH.	No. OF MCHS.	BRU PER MTH.
No. 1	.60	125	1	75.0
" 2	.90	"	2	225.0
" 3	1.00	"	6	750.0
" 4	1.50	"	3	562.5
" 5	3.00	"	1	375.0
" 6	6.00	90 tons	"	540.0
" 7	10.00	"	"	900.0
Total				3,427.5

The total BRU's spent every standard month will remain at 3,427.5 until the list of machines or processes is modified. The standard burden for Janu-



"Oh, Oh! Wonder why Wilson doesn't seem to want the auditors to examine the books?"



MISSOURI

Mother of the West

THE RELATIONSHIP of the State of Missouri to the great Western reaches of America is truly that of guardian and benefactor. Missouri is the center of the Nation — a vital link between the East and West. What better industrial or commercial location could be desired?

Besides ideal location, Missouri counts among her advantages: A modern (1945) State Constitution designed to encourage industry; a vast network of transportation facilities; low taxes; abundant water supply; plentiful labor; wealth of natural resources; diversified markets; low cost power; 350 alert communities eager to cooperate; and offers as evidence of these outstanding attributes the fact that 2,663 new businesses were incorporated during the first eleven months of 1946.

Specialized, confidential service to industrialists. Write direct: Missouri State Division of Resources and Development, Dept. R71, Jefferson City, Mo.

THE STATE OF MISSOURI

In The Heart of America

ary 1946 (see previous list of monthly values) is \$40,033. One BRU must therefore earn $\$40,033 \div 3,427.5 = \11.68 in January, and the burden rate of each machine and process for January can be determined by multiplying its BRU by \$11.68.

No.	BRU PER Mch.	COST ONE BRU	BURDEN RATE JANUARY
1.	.60	$\times \$11.68 =$	\$7.01 per hour
2.	.90	" =	10.51 " "
3.	1.00	" =	11.68 " "
4.	1.50	" =	17.52 " "
5.	3.00	" =	35.04 " "
6.	6.00	" =	70.08 per ton
7.	10.00	" =	116.80 " "

These rates will exactly earn the burden for January 1946 from which they were derived.

No. 1.	125 hrs.	$\times \$7.01 =$	\$876.25
" 2.	250 "	" =	2,627.50
" 3.	750 "	" =	8,760.00
" 4.	375 "	" =	6,570.00
" 5.	125 "	" =	4,380.00
" 6.	90 tons	$\times 70.08 =$	6,307.20
" 7.	90 "	" =	10,512.00

\$40,032.95

In order to keep track of how burden is changing it is not necessary to carry out individual rates each month, but only to obtain the value of one BRU.

STANDARD BURDEN

1946 Jan.	40,033	$\div 3,427.5 =$	\$11.68 per BRU
Feb.	40,886	" =	11.93 " "
Mar.	40,558	" =	11.83 " "
Apr.	40,782	" =	11.90 " "

If these values are plotted the future values of burden rates can even be estimated for a few months in advance by projecting the line into the future. The same type of calculations could be applied to a year. The method, however, is particularly suitable for monthly determinations in which the list of machines and processes which must earn the burden can most easily be kept current.

First we developed the formula for a particular plant to change from actual burden to standard burden,

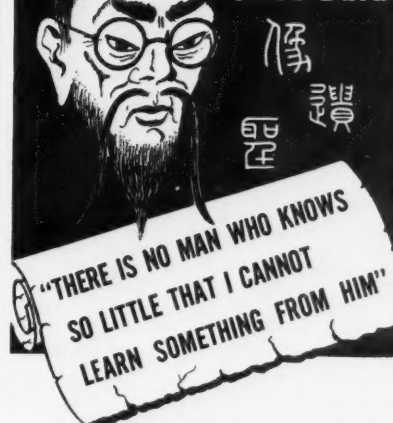
$$F = \frac{125.2}{25.2 + R}$$

Then we developed the total Burden Ratio Units for the same plant to be earned at standard, 3,427.5 BRU.

All that is necessary each month to find the burden level (and actual rates if desired) are the following facts for the month, using January 1946 as an example: Actual direct labor cost, \$24,780 (for percentage of direct labor method only); actual burden spent,

AN ORIENTAL PHILOSOPHER

Once Said:



*There are thousands of dollars worth of cost-cutting, money-making ideas in the minds of your employees. To get these ideas working for you is the purpose of the

MORTON
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SYSTEM

Much more than just a box on the wall, the Morton System is a complete, workable, tested and proven plan that integrates all departments in an effective "idea mining" campaign.

10,000 companies have found that this system has not only quickly paid for itself, but savings resulting from its use have amounted to thousands of dollars in installation after installation. Won't you tell us the nature of your business, how many you employ? The number on each shift?



TEAR OUT AND MAIL THIS COUPON TODAY NOW!

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Please send me cost free, complete details about your unique suggestion system. Also free booklet titled "Guideposts on the Road that Lies Ahead."

NAME _____
POSITION _____
FIRM _____ No. Employees _____
ADDRESS _____
CITY _____ State _____

There're FOLKS in Mississippi



NOT CENSUS FIGURES

We believe you are more interested in folks than figures. Figures? Yes, we have figures to prove that industrial employment has jumped 50 per cent since before the war, that our output per man hour is greater, and that we have intelligent, skilled, adaptable labor. But more important, we believe, are the folks with whom you deal. If you are interested in folks too, you'll find a friendly, native-born population in Mississippi—everyday folks who are interested in you. They're proving that daily by investing money in buildings to house your industry. They'll work for you and with you because they have an interest in your success.

You can learn about these folks best by meeting them. A vacation in Mississippi not only will give you a chance to 'see for yourself', it will provide the needed rest you've promised yourself and family.

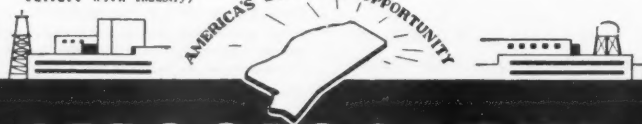


Ask for a confidential report on Mississippi's industrial opportunities.

MISSISSIPPI AGRICULTURAL AND INDUSTRIAL BOARD

New Capitol Building
JACKSON, MISSISSIPPI

(BAWI Means Balance Agriculture with Industry)



MISSISSIPPI
★ THE BAWI STATE ★

\$46,442; and rate of operation, 120 per cent.

Then standard labor = $\$24,780 \times 100/120 = \$20,642$ and standard burden =

$$46,442 \times \frac{125.2}{25.2 + 120} = \$40,033.$$

Burden as a percentage of direct labor = $40,033/20,642 = 194$ per cent. The value of one BRU, that is, the burden rate level = $\$40,033 \div 3,427.5 = \11.68 which, incidentally, is the actual burden rate of machine No. 3.

After the ground work is laid, it requires perhaps 15 minutes each month to take the necessary facts from the monthly profit and loss statement and to determine the current burden rate level. Certainly the "burden" of burden rate determination is reduced to a minimum and makes it one of the minor troubles besetting the accountant.

DUN'S REVIEW

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MORE DETAILED breakdowns of those data originally compiled by the publishers appear monthly in DUN'S STATISTICAL REVIEW, largely in tabular and chart form, \$2 a year, \$3 outside of the United States. These data include business failures, bank clearings, building permits, price indexes, and regional trade information.



Napoleon Lost at Waterloo because he was tired!

ON that hot June day 132 years ago, Napoleon surveyed the British legions across the Flanders Fields...but did not attack in force when the time was ripe. He had been riding all of the night before and he was very tired. Hence, his indecision and delay. Then Blücher came, and all was lost.

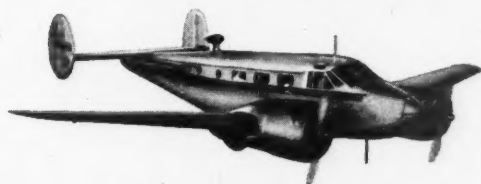
Thousands of American businesses doubtless have lost millions because of decisions arrived at and commitments made by tired executives who had spent days and hours in fatiguing travel prior to important business conferences.

But many of America's leading industries have recognized that the fatigue of business travel is avoidable in a large measure through the use of Beechcrafts. For they not only provide relaxing comfort but the speed which makes every journey a short one; and they save many otherwise wasted hours by being able to go when

passengers want to go and to travel between destinations not adequately served by other transportation.

The roster of American corporations owning the Beechcraft Executive Transport includes nearly every field of business and industry. It provides a continuous liaison between remote works and headquarters, it doubles and trebles the efficiency of executives, it revolutionizes customer service by reducing days to hours. And it accomplishes this at an actual saving in the over-all costs of business travel.

Your nearest Beechcraft distributor is prepared with facts and figures to help you appraise company-owned air transportation in the light of your own transportation needs. He welcomes the opportunity to demonstrate to you the new Beechcraft Model 18. No obligation, of course. Beechcraft distributors are located in key cities across the U. S. A.



Beech Aircraft

CORPORATION



WICHITA, KANSAS, U. S. A.

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HELP MANAGEMENT..

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LABOR RELATIONS
•
INCREASE
PRODUCTION**

TOP management today realizes that improved labor relations is the key to increased production. Better labor relations naturally entail better working conditions—above all, a comfortable, healthful atmosphere for employees.

Does air-conditioning meet this requirement? Not unless it is successful air-conditioning. And successful air-conditioning is never obtained by merely blowing cooled or heated air through grilles into a room. Such air distribution methods result in drafts, pockets of stale air, and layers or spots of uneven temperatures and humidities.

ANEMOSTAT — the "business end" of air-conditioning!

Anemostat air-diffusers completely eliminate those undesirable conditions. Easily installed at the duct opening of any existing or contemplated air-conditioning system, Anemostats insure a thorough and even distribution of conditioned air, equalize room temperature and humidity, eliminate drafts. Moreover, about 35% of the room air is constantly siphoned into the Anemostat where it mixes with the incoming air before the latter is discharged into the room. This exclusive "aspirating" effect of the Anemostat continually revitalizes room air.

The result is true air comfort, with increased working efficiency — the "business end" of air-conditioning!

That is but one way in which Anemostats aid management. Anemostats also help to establish optimum atmospheric conditions for better manufacturing or processing of various commodities — from precision aircraft parts to drug products. Because of their demonstrated benefits in a diversity of applications, Anemostats have earned wide acceptance throughout industry. In factories, stores and offices the country over, Anemostats are improving working conditions . . . helping management increase production.

Probably your organization, too, could use Anemostats to advantage. Complete information will gladly be sent you on request.

ANEMOSTAT

ANEMOSTAT CORPORATION OF AMERICA
10 East 39th Street, New York 16, N. Y.
REPRESENTATIVES IN PRINCIPAL CITIES

AG-1

"NO AIR-CONDITIONING SYSTEM IS BETTER THAN ITS AIR-DISTRIBUTION"

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